Volume 1

PALO VERDE MESA SOLAR PROJECT

Draft Environmental Impact Report
State Clearinghouse No. 2012081026

Prepared for
Riverside County
Planning Department

September 2016

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EXECUTIVE SUMMARY

ES.1 Introduction

Renewable Resources Group, Inc. (Applicant) is proposing the construction, operation, and decommissioning of the Palo Verde Mesa Solar Project (PVMSP or Project), an up to 450 megawatt (MW) alternating current solar photovoltaic (PV) electrical generating facility and associated infrastructure to provide site access and connection to the statewide electricity transmission grid.

The Project would be located on approximately 3,400 acres[1] in the Palo Verde Mesa region of Riverside County—3,250 acres for the solar facility site and 143 acres for the 230 kilovolt (kV) gen-tie line. The solar facility is comprised of three sites that would be constructed in phases. Site 1 (Phase 1) would total 905 acres and would have a generation output of 145 MW; Site 2 (Phase 2) would total 1,343 acres and would have a generation output of 221 MW; and Site 3 (Phase 3) would total 1,002 acres and would have a generation output of 104 MW. The power produced by the Project would be conveyed to the local power grid via interconnection to the Southern California Edison (SCE) Colorado River Substation (CRS), an approved new substation located south of Interstate 10 (I-10) and approximately seven miles west of the Project area. The Project has secured a California Independent System Operator (CAISO) interconnection queue position sufficient for the size of the Project. The Project would produce enough energy to power approximately 180,000 households and progress the goals of the California Renewable Portfolio Standard (RPS) and other similar renewable programs in the state.

ES.2 County and Applicant's Project Objectives

The following objectives (as described in Chapter 2, *Project Description*) have been established for the proposed Project:

- Construct a solar energy facility to facilitate meeting State and federal renewable energy standards and goals.
- Assist with State and federal greenhouse gas (GHG) emissions reduction objectives to the maximum extent possible.
- Locate the Project facilities as near as possible to electrical transmission facilities with anticipated capacity and a reserved California Independent System Operator (CAISO) interconnection position.
- Site the Project in an area with excellent solar energy resources in order to maximize productivity from the photovoltaic (PV) panels.

[1] The total acreage for the solar facility site and gen-tie line would occupy 3,393 acres (rounded up to 3,400 acres).

- To the extent feasible, site the Project on disturbed land with compatible topography and in a manner that minimizes environmental impacts.
- Use a proven and available solar PV technology.

ES.3 Summary of Public Involvement

ES.3.1 Notice of Preparation

In compliance with Section 15082 of the CEQA Guidelines, a Notice of Preparation (NOP) was issued on August 8, 2012. The notice briefly described the proposed Project and location, environmental review process, the potential environmental effects, and contact information; as well as announced the time and location of the public scoping meeting.

ES.3.2 Public Scoping

The public scoping period commenced on August 8, 2012 with the issuance of the NOP and ended on September 7, 2012. A public scoping meeting was conducted in the City of Blythe on August 23, 2012.

ES.3.3 Areas of Controversy/Public Scoping Issues

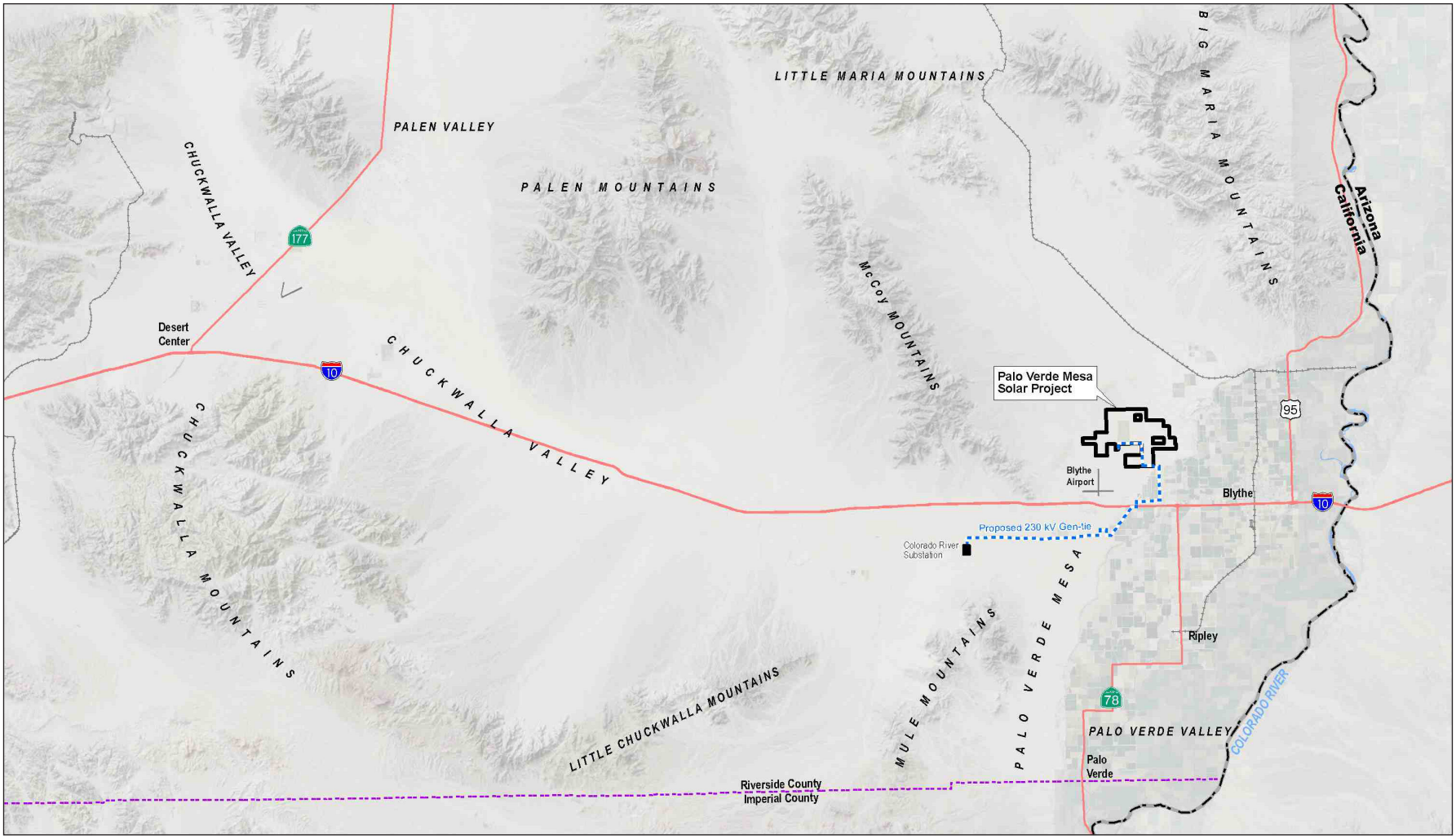
Based on input received during the public scoping period and at the scoping meeting, concerns expressed by the public and agencies include: aesthetics, agricultural resources, air quality, biological resources, cultural resources, hazards and hazardous materials, hydrology and water quality, land use, noise, public services, and traffic and circulation. A scoping report was prepared for the Project in October 2012. A full copy of the report is provided in Appendix A. Public scoping comments are also summarized in Section 1.5, *Scoping Comments Summary*.

ES.4 Proposed Project

ES.4.1 Project Location

The PVMSP is located in the Palo Verde Mesa area of eastern Riverside County, approximately five miles northwest of central Blythe and 40 miles east of Desert Center. More specifically, the proposed Project's solar facility site would be located north of I-10, west of Neighbors Boulevard, and north of the Blythe Airport. The 230 kV gen-tie line would be located north and south of the I-10 freeway. Figure ES-1, Regional Map, illustrates the location of the proposed Project. The solar facility site is located within the County of Riverside's jurisdiction. The 230 kV gen-tie line would traverse mainly County of Riverside jurisdiction, as well as the City of Blythe jurisdiction and BLM-managed lands.

Surrounding development includes the community of Nicholls Warm Springs/Mesa Verde, Blythe Airport, the 520-MW natural gas-fired Blythe Energy Center (including Buck Substation), Blythe Substations, other high voltage electrical transmission lines, Blythe Solar Project (owned by NRG), ancillary agricultural facilities, and dirt roads.



Proposed 230kV Gen-tie
Solar Facility

N

0 5 10
Miles

SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure ES-1
Regional Location Map

ES.4.2 Project Components

Proposed Solar Facility and Gen-tie line

The proposed 450 MW PV electrical generating facility and 14.5-mile gen-tie line would occupy approximately 3,400 acres. The proposed Project would consist of the following major components (see Figures 2-5, *Project Area and 2-6, Site Plan*):

- Solar Facility (3,250 total acres, private land)
    - Solar array field that utilizes single-axis solar PV trackers (295 feet long and 140 feet wide). Six trackers with 18 north-south oriented rows of PV panels would be configured into blocks (660 feet long by 470 feet wide).
    - Inverters (5.0 feet wide and 10.5 feet tall) mounted on small concrete pads (minimum 0.5 foot above grade).
    - System of underground interior collection power lines located between inverters and substations.
    - Two on-site substations (each approximately 300 feet long by 300 feet wide).
    - One operation and maintenance (O&M) building (approximately 3,500 square feet).
    - Several interior access roads.
- New 230 kV Gen-tie Line (approximately 14.5 miles)
    - Approximately 2.7 miles would be located within the solar facility.
    - Approximately 11.8 miles would extend outside of the solar facility and would be placed within a 100-foot-wide right-of-way (ROW) and occupy 143.1 acres.

Shared Gen-tie facilities with Blythe Mesa Solar Project

This EIR studies the entire 14.5-mile transmission line as part of the PVMSP; however, the Blythe Mesa Solar Project (BMSP) includes double-circuit 230 kV transmission line poles which are anticipated for use by the PVMSP. The BMSP EIR/Environmental Assessment (EA) was certified by the County Board of Supervisors in March 2015 and approved by the BLM in August 2015. If available, the proposed Project could use 8.9 miles of the vacant circuit position and only construct 5.6 miles of new transmission line from the PVMSP substation to the BMSP's I-10 Substation. See the 230 kV Gen-tie Lines subsection for a detailed description of the gen-tie line. Use of the BMSP gen-tie line has been fully analyzed in the EIR/Environmental Assessment for the BMSP. However, to ensure that the whole of the proposed project is analyzed, this EIR evaluates the impacts of constructing new gen-tie line poles, as if a vacant position on the double-circuit poles is not available.

ES 4.2.3 Construction, Operations and Decommissioning

Construction is anticipated to occur over a three-year period with construction activities occurring simultaneously; peak construction would occur over 24 months. Approximately 300-500 daily workers would be present on-site during peak construction. Worker construction traffic would

consist of approximately 250-400 daily vehicle roundtrips (300 employees would travel alone, and 200 employees would carpool).

After the construction phase, the O&M building would serve the PVMSP's approximately 12 permanent full-time employees, which would include one plant manager, five engineers/technicians, and six security staff. Project facilities would be monitored during operating (daylight) hours, even though the Project facilities would be capable of automatic start up, shutdown, self-diagnosis, and fault detection.

At the end of the 30-year operational period of the proposed Project, the PVMSP components may be decommissioned and deconstructed. It is expected that many components will be suitable for recycling or reuse, and Project decommissioning would be designed to optimize such salvage as circumstances allow and in compliance with all local, State, and federal laws and regulations as they exist at the time of decommissioning. Following removal of all of the above-ground and buried Project components, the site would be restored to its pre-solar facility conditions through redistribution, balancing, and conditioning of soils. Decommissioning activities would require similar equipment and workforce as construction, but would be less intense. See Chapter 2, *Project Description*, for detailed construction, operation, and decommissioning activities.

ES.5 Alternatives to the Project

ES.5.1 Alternatives eliminated from further consideration

CEQA requires an EIR to consider a reasonable range of alternatives to the Project that would feasibly attain most of the basic objectives of the Project. In addition, CEQA requires the consideration of how to avoid or substantially lessen any adverse effects of the proposed Project.

Alternatives to the proposed Project were identified through the scoping process, informational public meetings, and preliminary studies. A number of potential alternatives to the proposed Project were identified. Some of these alternatives did not have the potential to meet the Project objectives, or the potential to avoid or minimize adverse environmental effects. Initial evaluation revealed that others are infeasible. The following alternatives were considered but eliminated from further evaluation, for the reasons explained below:

- Solar Power Tower Technology Alternative
- Distributed Solar Photovoltaic Alternative
- Conservation and Energy Demand Reduction Alternative
- Alternative Site on BLM-managed Lands
- Palo Verde Valley Floor Alternative
- Wind-Generated Power Alternative

Solar Power Tower Technology Alternative

The solar power tower technology uses a flat mirror "heliostat" system that tracks the sun and focuses solar energy on a central receiver at the top of a high tower. In areas of high solar insolation potential (i.e., desert environments), the land required to develop a concentrated solar energy facility is comparable to that required for a PV project—approximately five acres per megawatt (MW) of installed capacity (NREL 2010).

Alternative Conclusions

The use of a solar power tower technology would meet most of the basic Project objectives; however, use of this technology would result in potentially significant impacts to the Blythe Airport's operations. While the Project would also have significant impacts to airport operations, those impacts are mitigated with Mitigate Measure HAZ-2. However, unlike the Project, this potential alternative could not be similarly mitigated due to typical height design specifications associated with power tower technology. Therefore, a solar power tower system alternative was not considered further.

Distributed Solar Photovoltaic Alternative

A distributed solar alternative would consist of a number of geographically distributed small to medium solar PV systems (100 kilowatts to 1 MW) within existing developed areas that would absorb solar radiation and convert it directly to electricity. The PV panels could be installed on residential, commercial, or industrial building rooftops or in other disturbed areas like parking lots or disturbed areas adjacent to existing structures such as substations. Under this alternative, no new land would be developed or altered.

Alternative Conclusions

Although there is potential to achieve up to 450 MW of distributed solar energy, the limited number of existing facilities makes it unlikely to be feasible or present environmental benefits.

Given the size of the proposed Project, the Project objectives, the need to arrange a suitable assemblage of participating commercial and industrial properties, and other challenges, it is impractical and infeasible to propose a distributed generation project of this type and still proceed within a reasonably similar timeframe. While it will very likely be possible to achieve 450 MW of distributed solar energy over the next few years, the limited number of currently existing facilities makes it difficult to conclude with confidence that it will happen within the timeframe required for the proposed Project. There are a number of challenges associated with the implementation of a distributed solar technology, which include widely varying codes, standards, and fees; environmental requirements and permitting concerns; interconnection of distributed generation; and integration of distributed generation. While distributed generation projects may have fewer impacts on certain resources because they do not utilize substations and transmission facilities, this illustrates that distributed generation projects cannot meet one of the fundamental objectives of a utility-scale solar project: to provide renewable energy to utility off-takers and their customers. As a result, this technology is eliminated from detailed analysis as an alternative to the proposed Project.

Conservation and Energy Demand Reduction Alternative

Conservation and demand reduction consist of a variety of approaches for the reduction of electricity use, including energy efficiency and conservation, building and appliance standards, and load management and fuel substitution.

Alternative Conclusions

This alternative is not technically feasible as a replacement for the proposed Project, because California utilities are required to achieve aggressive energy efficiency goals. Additional energy efficiency beyond that occurring in the baseline condition may be technically possible, but it is speculative to assume that energy efficiency alone would achieve the necessary GHG reduction goals. Additionally, as stated in the California Energy Commission's 2011 IEPR, California's renewable energy goals are based on a percentage of retail sales of electricity, and reducing overall electricity demands means fewer retail sales and therefore less renewable energy that must be generated. Conservation and demand-side management would not by themselves provide the renewable energy required to meet the California renewable energy goals. Therefore, this alternative does not have the potential to meet Project objectives pertaining to renewable energy goals.

Alternative Site on BLM-managed Lands

Similar to the proposed Project, the Alternative Site on BLM-managed Lands would involve the construction, operation, and decommissioning of a 450 MW solar facility and 230 kV gen-tie line. This alternative would be located within the Developable Areas within the Riverside East Solar Energy Zone (SEZ) that was identified by the BLM and Department of Energy (BLM and DOE, 2010) as a priority area for utility-scale solar energy development. The Alternative Site on BLM-managed Lands would be located approximately 20 miles from the Colorado River Substation.

Alternative Conclusions

The Alternative Site on BLM-managed Lands would avoid impacts to agricultural resources; however, it may not be feasible to find an Alternative Site on BLM-managed Lands, because most of the land within the Developable Areas of the Riverside East SEZ are in use, proposed for other solar energy projects, or within mountainous areas. This alternative would likely have impacts similar to those of the proposed site for many resource elements, such as air quality and traffic. However, it is likely to have more severe biological, cultural, and visual resource impacts, as it would likely be located on undisturbed lands and located farther away from the Colorado River Substation. The Alternative Site on BLM-managed Lands would not present significant environmental advantages over the proposed Project.

Palo Verde Valley Floor Alternative

Similar to the proposed Project, the Palo Verde Valley Floor Alternative would involve the construction, operation, and decommissioning of a 450 MW solar facility and 230 kV gen-tie line. The solar facility would be situated on private lands within the Palo Verde Valley (between

the Palo Verde Mesa to the west and the Colorado River to the east), instead of the Palo Verde Mesa, as well as on BLM-managed lands.

Alternative Conclusions

Similar to the proposed Project, the Palo Verde Valley Floor Alternative would also impact agricultural land. However, the Palo Verde Valley Floor Alternative would impact lands that are under Williamson Act contracts, which would not be impacted by the proposed Project. This Alternative would also be farther away from the Colorado River Substation, which would increase ground disturbance and impacts to aesthetics, air quality, biological resources, hydrology and water quality, and traffic and circulation. The proximity to the Colorado River could pose adverse impacts related to migratory birds, water resources, and the risk of flooding, which would not result from implementation of the proposed Project. Permitting delays are likely to result from these potentially adverse environmental impacts. As a result, this alternative was not analyzed in further detail.

Wind-Generated Power Alternative

This alternative would involve the use of wind energy as an alternative to development of a solar energy facility. Similar to solar power, power from the wind is an alternative to energy production from non-renewable resources like coal and oil, or nuclear sources. Wind energy provides several benefits, including, but not limited to, the following:

- Wind is a renewable and infinite resource.
- The generation of wind energy does not produce any air emissions, including carbon dioxide (GHG).
- Although wind energy requires a significant up-front capital investment, it is a free resource after the capital cost of installation (excluding maintenance).

Alternative Conclusions

Unlike the proposed Project, wind turbines would have the potential to impact avian species in the local area. The development of wind farms would also typically result in greater adverse aesthetics impacts due to the height of the turbines. Agriculture resources would also still be impacted by the presence of wind turbines and associated facilities. While the Project area has been identified as suitable for solar projects based on the solar insolation levels (the amount of solar radiation energy) in the area, wind energy production is not well-suited to the Project area due to relatively low wind speeds and directionality insufficient to drive wind turbines. This alternative was eliminated from detailed consideration because it fails to meet the project objectives and does not avoid or substantially reduce any significant environmental effects.

ES.5.2 Alternatives selected for analysis

This EIR includes detailed evaluations of two alternatives to the proposed Project. The following alternatives could potentially meet most of the basic Project objectives of the proposed Project, as well as avoid or substantially lessen any of the significant impacts of the proposed Project. An evaluation of a No Project Alternative is required under CEQA.

- Alternative 1: No Project
- Alternative 2: Reduced Project Alternative

Table ES-1 summarizes the Project alternatives. Each alternative is also briefly described below. **Table ES-2** provides a summary comparison of alternatives to the proposed Project. Please refer to Chapter 5, *Alternatives*, for a detailed discussion regarding the comparison of Alternatives to the proposed Project.

TABLE ES-1
PROJECT ALTERNATIVES SUMMARY

Alternative	Description	Basis for Selection and Summary of Analysis
Proposed Project	• 450 MW of photovoltaic solar electric generating facility on 3,393 acres	• Proposed Project by Applicant
Alternative 1: No Project	• Existing General Plan land use designations and zoning designation would remain • No development would occur on site • Site would remain as agricultural land	• Required by CEQA • Avoids significant impacts
Alternative 2: Reduced Project Alternative	• 388 MW of photovoltaic solar • Solar facility would avoid utilization of Important Farmland	• Minimizes impacts to agriculture • Reduces other impact such as biological resources, air quality, etc. due to smaller project footprint.

TABLE ES-2
COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT

Environmental Resource	Alternative 1: No Project[2]	Alternative 2: Reduced Project Alternative
Aesthetics	Fewer	Fewer
Agriculture and Forestry Resources	Fewer	Similar
Air Quality	Greater	Greater
Biological Resources	Fewer	Fewer
Cultural and Paleontological Resources	Fewer	Fewer
Geology, Soils and Mineral Resources	Fewer	Similar
Greenhouse Gas Emissions	Greater	Greater
Hazards and Hazardous Materials	Fewer	Fewer
Hydrology and Water Quality	Fewer	Similar
Land Use and Planning	Fewer	Similar
Noise	Fewer	Fewer

[2] The No Project Alternative will have no impacts, and the terms "fewer" and "greater" are used for ease of reference only, "Fewer" is used to indicate that the No Project Alternative would not create impacts the Project would create. The term "Greater" indicates that the No Project Alternative, consisting of a continuation of baseline agricultural activities, would result in greater air quality and greenhouse gas emissions than would the Project.

Environmental Resource	Alternative 1: No Project[2]	Alternative 2: Reduced Project Alternative
Population and Housing	Fewer	Fewer
Public Services and Utilities	Fewer	Fewer
Recreation	Fewer	Fewer
Traffic and Transportation	Fewer	Fewer
Potential to Meet Project Objectives?	*NO*	*YES*

Alternative 1: No Project

Under Section 15126.6(e)(2) of the CEQA Guidelines, the No Project Alternative should discuss the existing conditions at the time the Notice of Preparation is published and what is reasonably expected to occur in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services.

Under the No Project Alternative, the existing land uses (agriculture) on the Project site would continue. Current, ongoing operation and maintenance activities associated with the agricultural use of the Project Site would continue. Existing roadways would also continue in their current capacities. All current zoning and land use designations (Controlled Development and Light Agriculture) would be maintained. During construction, air quality emissions associated with the Project would be equal to, if not greater than, the existing farming operations; following the construction period (during Project operations), the proposed Project would likely produce less air pollution than existing land uses by removing gas- and diesel-powered farming equipment and vehicles (e.g., tractors, crop dusting, haul trucks) and ground-disturbing. Therefore, as summarized in Table ES-2, Alternative 1 would avoid adverse impacts to every resource when compared to the proposed Project with the exception of air quality and greenhouse gas emissions. Alternative 1 would result in greater air quality and greenhouse gas emissions when compared to the proposed Project.

Alternative 2: Reduced Project Alternative

The Reduced Project Alternative would produce approximately 388 MW. Similar to the proposed Project, Alternative 2 would include the construction of a solar facility, electrical collection system (combiners, inverters, and transformers), 34.5 kV underground distribution system, 230 kV gen-tie to the Colorado River Substation, O&M building, and Project substations; however, these Project components could be reduced in number or size. The Reduced Project Alternative, would avoid development on 316 acres of Important Farmland (compared to 350 for the proposed Project); however, the overhead gen-tie line corridor needed to connect the solar facility to the Colorado River Substation would impact approximately 34 acres of Important Farmland (33 acres of Prime Farmland and 1 acre of Unique Farmland).

Environmentally Superior Alternative

Section 15126.6 of the CEQA Guidelines requires an EIR to identify an “environmentally superior” alternative; if the “No Project” alternative is the environmentally superior alternative,

then the EIR must identify which of the other alternatives is environmentally superior. Table ES-2 summarizes the comparison of impacts between the Alternatives to the proposed Project to help determine the Environmentally Superior Alternative. As presented in the comparative analysis above, the Environmentally Superior Alternative for the proposed Project would be Alternative 1, the No Project Alternative. No substantially adverse and long-term impacts would occur to the environment as a result of the No Project Alternative. The No Project Alternative would also avoid the impacts of the Project analyzed in Chapter 4, *Other CEQA Considerations*, but the failure to construct a renewable energy production facility would result in a loss of the Project's beneficial impacts in the long term to air quality and GHG emissions.

In accordance with Section 15126.6 of the CEQA Guidelines, Alternative 2, the Reduced Project Alternative, would be the Environmentally Superior Alternative since it would result in fewer impacts than the proposed Project due to the smaller project footprint and avoidance of Important Farmland.

ES.6 Summary of Impacts and Mitigation Measures

An overview of environmental impacts by resource area is provided below based on the detailed impact finding and mitigation measures for the proposed Project provided in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*. **Table ES-3** provides a summary of impacts and mitigation measures. For each impact, the following information is presented: impact number, impact significance level, mitigation measure(s) if applicable, and residual impact following the implementation of recommended mitigation measures (i.e., significant and unavoidable or less than significant).

TABLE ES-3
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED PROJECT

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
Aesthetics							
Impact AES-1: The Project could substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact AES-2: The Project could substantially degrade the existing visual character or quality of the site and its surroundings.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact AES-3: The Project could create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact AES-4: The Project could result in the creation of an aesthetically offensive site open to public view.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact AES-5: The Project could expose residential property to unacceptable light levels.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Contribution Toward Cumulative Aesthetics Impacts	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Agriculture and Forestry Resources							
Impact AG-1: The Project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the	Significant	Less than significant	**Mitigation Measure AG-1:** Prior to issuance of a grading permit, the Applicant shall provide written evidence of completion of at least one of the following measures to mitigate the impact to agricultural resources caused by conversion of	Applicant	Riverside County Planning Department	Prior to grading/ issuance of a grading permit	Riverside County Planning Department

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.			land subject to the grading permit to non-agricultural uses. Important farmlands include Prime Farmlands, Farmlands of Statewide Importance, and Unique Farmlands as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency that is in effect as of the date of approval of the Project. 1. Acquire and record agricultural conservation easement(s) meeting the following criteria: a. Two acres placed under conservation easement for each net acre of Important Farmland converted to non-agricultural uses during the life of the Project. A plot plan shall be submitted substantiating the net acreage calculation, which shall be consistent with the definition of "Net Acreage" in County Policy B-29[3]. b. Land subject to the conservation easement shall be located in Riverside County and must be of the same or higher State of California Department of Conservation farmland classification (Prime Farmland or Farmland of Statewide Importance) as the land that has been converted to non-agricultural uses. c. The conservation easement must be held by a third party having the capacity to hold such an easement and in an easement form acceptable to Riverside County. d. The Applicant must provide to the easement holder an endowment sufficient to generate funds for				

3 The County of Riverside's Board of Supervisor's Policy B-29 defines "Net Acreage" as all areas involved in the production of power including, but not limited to, the power block, solar collection equipment, areas contiguous to solar collection equipment, transformers, transmission lines and/or piping, transmission facilities (on and off-site), service roads regardless of surface type – including service roads between panels or collectors, structures, and fencing surrounding all such areas. Net acreage shall not include off-site access roads or areas specifically set aside either as environmentally sensitive or designated as open space, and shall not include the fencing of such set aside areas.

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			ongoing monitoring and enforcement of the easement. 2. Purchase of credits from an established agricultural land mitigation bank in an amount sufficient to achieve a level of protection at least equivalent to Section 1 of Mitigation Measure AG-1 above; 3. Contribution of agricultural land or equivalent funding to an organization that provides for the preservation of farmland in California in an amount sufficient to achieve a level of protection at least equivalent to Section 1 of Mitigation Measure AG-1 above; or 4. Participation in any agricultural land mitigation program adopted by Riverside County that provides equal or more effective mitigation than the measures listed above.				
Impact AG-2: The Project could conflict with existing zoning for agricultural use, or a Williamson Act contract.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact AG-3: The Project could involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or forestland to non-forest use.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact AG-4: The Project could cause development of non-agricultural uses within 300 feet of agriculturally zoned property (Ordinance No. 625, "Right-to-Farm").	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Contribution Toward Cumulative Agriculture Impacts	Significant	Less than significant	Implement Mitigation Measure AG-1				

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
Air Quality							
Impact AIR-1: The Project could conflict with or obstruct implementation of the applicable air quality plan.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact AIR-2: The Project could violate any air quality standard or contribute substantially to an existing or projected air quality violation when added to the local background.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact AIR-3: The Project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including release emissions which exceed quantitative thresholds for ozone precursors).	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact AIR-4: The Project could expose sensitive receptors to substantial pollutant concentrations.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact AIR-5: The Project would not create objectionable odors affecting a substantial number of people.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact AIR-6: The Project could expose sensitive receptors that are located within one mile of the Project site to substantial point source emissions.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
Contribution Toward Cumulative Air Qualify Impacts	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Biological Resources							
Impact BIO-1: The Project could have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.	Significant	Less than significant	**Mitigation Measure BIO-1:** The Lead Biologist shall monitor the work area bi-weekly during ground disturbing construction activities. The Lead Biologist shall conduct monitoring for any area subject to disturbance from construction activities that may impact biological resources. The Lead Biologist's duties include minimizing impacts to special-status species, native vegetation, wildlife habitat, and unique resources. Where appropriate, the inspector will flag the boundaries of biologically sensitive areas and monitor any construction activities in these areas to ensure that ground disturbance activities and impacts occur within designated limits. The Lead Biologist will also be responsible for ensuring the BMPs shall be employed to prevent loss of habitat caused by Project-related impacts (e.g., grading or clearing for new roads) within the gen-tie line corridor. The resume of the proposed Lead Biologist will be provided to the County (as appropriate) for concurrence prior to onset of ground-disturbing activities. The Lead Biologist will have demonstrated expertise with the biological resources within the Project area.	Applicant	Riverside County Planning Department designated biologist and BLM	Prior to grading and during construction	Riverside County Planning Department and BLM
			Mitigation Measure BIO-2: Pre-construction surveys shall be conducted for State and federally listed Threatened and Endangered, Proposed, Petitioned, and Candidate plants in a 250-foot radius around all areas subject to ground-disturbing activity including, but not limited to, tower pad preparation and construction areas, solar facilities, pulling and tensioning sites, assembly yards, and areas subject to grading for new access roads. The surveys shall be conducted during the appropriate blooming period(s) by an authorized plant ecologist/biologist according to protocols established by the USFWS, CDFW, BLM, and California Native Plant Society (CNPS).	Applicant	Riverside County Planning Department, designated biologist	Prior to grading	Riverside County Planning Department

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			Measures shall be taken to avoid and minimize impacts to special-status plant species that are found to be present during the preconstruction surveys. This includes avoiding unnecessary or unauthorized trespass by workers and equipment, staging and storage of equipment and materials, refueling activities, and littering or dumping debris in areas known to contain special-status plant species that are not within the designated construction footprint.				
			Mitigation Measure BIO-3 In areas identified as suitable habitat during the 2011 and 2012 surveys, biological monitors shall conduct pre-construction surveys for American badger no more than 30 days prior to initiation of construction activities. Surveys shall also consider the potential presence of dens within 100 feet of the Project boundary (including utility corridors and access roads) and shall be performed for each phase of construction. If dens are detected each den shall then be further classified as inactive, potentially active, or definitely active. Inactive dens that would be directly impacted by construction activities shall be excavated by hand and backfilled to prevent reuse by badgers. Potential dens that would be directly impacted by construction activities shall be monitored by the Biological Monitor for three consecutive nights using a tracking medium such as diatomaceous medium or fire clay and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den shall be excavated and backfilled by hand. If tracks are observed, the badger dens shall be fitted with the one-way trap doors to encourage badgers to move off-site. After 48 hours post-installation, the den shall be excavated and collapsed, following the same protocol as with western burrowing owl burrows. These dens shall be collapsed prior to construction of the desert tortoise fence, to allow badgers the opportunity to move off-site without impediment. If an active natal den is detected on the site, the CDFW shall be contacted within 24	Applicant	Riverside County Planning Department, designated biologist	Prior to and during construction	Riverside County Planning Department and CDFW

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			hours. The course of action would depend on the age of the pups, location of the den site, status of the perimeter site fence, and the pending construction activities proposed near the den. A 500-foot no disturbance buffer shall be maintained around all active dens. Alternatively, a designated biologist authorized by CDFW, shall trap and remove badgers from occupied dens and move them off-site into appropriate habitat.				
			Mitigation Measure BIO-4: In areas identified as suitable habitat during the 2011 and 2012 surveys, biological monitors shall conduct pre-construction surveys for kit fox no more than 30 days prior to initiation of construction activities. Surveys shall also consider the potential presence of dens within 100 feet of the Project boundary (including utility corridors and access roads) and shall be performed for each phase of construction. If dens are detected each den shall then be further classified as inactive, potentially active, or definitely active. Inactive dens that would be directly impacted by construction activities shall be excavated by hand and backfilled to prevent reuse by kit fox. Potential dens that would be directly impacted by construction activities shall be monitored by the Biological Monitor for three consecutive nights using a tracking medium such as diatomaceous medium or fire clay and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den shall be excavated and backfilled by hand. If tracks are observed, the kit fox dens shall be fitted with the one-way trap doors to encourage kit fox to move off-site. After 48 hours post-installation, the den shall be excavated and collapsed, following the same protocol as with inactive western burrowing owl burrows. These dens shall be collapsed prior to construction of the desert tortoise fence, to allow kit fox the opportunity to move off-site without impediment. If an active natal den is detected on the site, the CDFW shall be contacted within 24 hours. The	Applicant	Riverside County Planning Department, designated biologist	Prior to and during construction	Riverside County Planning Department and CDFW

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			course of action would depend on the age of the pups, location of the den site, status of the perimeter site fence, and the pending construction activities proposed near the den. A 500-foot no disturbance buffer shall be maintained around all active dens. Habitat-based mitigation or other appropriate mitigation as discussed previously for desert tortoise and western burrowing owl shall provide mitigation for impacts to non-listed special-status species that inhabit overlapping suitable habitat. The following measures are required to reduce the likelihood of distemper transmission: • No pets shall be allowed on the site prior to or during construction; • Any kit fox hazing activities that include the use of animal repellents such as coyote urine must be cleared through the CDFW prior to use; and • Any documented kit fox mortality shall be reported to the CDFW within 24 hours of identification. If a dead kit fox is observed, it shall be retained and protected from scavengers until the CDFW determines if the collection of necropsy samples is justified.				
			Mitigation Measure BIO-5: Desert Tortoise Protection. (1) **Qualified Biologist:** In the following measures, a "qualified biologist" is defined as a person with appropriate education, training, and experience to conduct tortoise surveys, monitor project activities, provide worker education programs, and supervise or perform other implementing actions. The person must demonstrate an acceptable knowledge of tortoise biology, desert tortoise impact minimization techniques, habitat requirements, sign identification techniques, and survey procedures. Evidence of such knowledge may include work as a compliance monitor on a project in desert tortoise habitat, work on desert tortoise trend plot or transect surveys,	Applicant	Riverside County Planning Department, designated biologist	Prior to grading and during construction	Riverside County Planning Department and USFWS

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			conducting surveys for desert tortoise, or other research or field work on desert tortoise. Attendance at a training course endorsed by the agencies (e.g., Desert Tortoise Council tortoise training workshop) is a supporting qualification. All qualified biologists must be approved by the USFWS and the Riverside Environmental Programs Department (EPD) prior to starting any work on site. A qualified biologist will be on-site during all construction. The qualified biologist shall conduct a pre-construction clearance survey of the Project area, watch for tortoises wandering into the construction areas, check under vehicles, and examine excavations and other potential pitfalls for entrapped animals. The qualified biologist will be responsible for overseeing compliance with desert tortoise protective measures and for coordination with the Field Contact Representative (FCR) (described below). The qualified biologist shall have the authority to halt all Project activities that are in violation of these measures or that may result in the take of a tortoise. The qualified biologist shall have a copy of the previously issued informal consultation letter issued for the Blythe Solar Project (FWS-ERIV-12B0299-12I0497) for construction of the shared gen-tie line when work is being conducted on the site. The qualified biologist is not authorized to handle or relocate desert tortoises as part of this project.				
			(2) **Preconstruction Clearance Survey**: The qualified biologist shall conduct a preconstruction clearance survey of the Project area. Transects for clearance surveys will be spaced 15 feet apart. Clearance will be considered complete after two successive surveys have been conducted without finding any desert tortoises. Clearance surveys must be conducted during the active season for desert tortoises (April through May or September through October). The qualified biologist is not authorized to handle or relocate desert tortoises a part of this project. If a tortoise or tortoise burrow is located during	Applicant	Riverside County Planning Department, designated biologist	Prior to grading	Riverside County Planning Department and USFWS

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			clearance surveys, the USFWS will be contacted for direction on how to proceed.				
			(3) **Field Contact Representative:** The Project Applicant will designate a FCR who will be responsible for overseeing compliance with desert tortoise protective measures and for coordination with the USFWS. The FCR will have the authority to halt all Project activities that are not in compliance with the measures in the previously issued informal consultation letter (FWS-ERIV-12B0299-12I0497). The FCR will have a copy of this letter when work is being conducted on the site. The FCR may be an agent for the company, the site manager, any other Project employee, a biological monitor, or other contracted biologist. The FCR nor any other project proponent may bar or limit any communications between any Natural Resource Agency or The County of Riverside Environmental Programs Division and any project biologist, biological monitor or contracted biologist. Any incident occurring during the Project activities that is considered by the qualified biologist to be in non-compliance with these measures will be documented immediately by the qualified biologist. The FCR will ensure that appropriate corrective action is taken. Corrective actions will be documented by the qualified biologist. The following incidents will require immediate cessation of the Project activities causing the incident: (1) location of a desert tortoise within the exclusion fencing; (2) imminent threat of injury or death to a desert tortoise; (3) unauthorized handling of a desert tortoise, regardless of intent; (4) operation of construction equipment or vehicles outside a project area cleared of desert tortoise, except on designated roads; and (5) conducting any construction activity without a biological monitor where one is required.	Applicant	Riverside County Planning Department	Prior to grading and construction	Riverside County Planning Department and USFWS
			(4) **Worker Training:** Prior to the onset of construction activities, a desert tortoise education program will be presented by the FCR or qualified biologist to all personnel who will be	Applicant	The Riverside County Planning Department	Prior to grading and construction	Riverside County Planning Department

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			present on work areas within the Project area. Following the onset of construction, any new employee will be required to formally complete the tortoise education program prior to working on-site. At a minimum, the tortoise education program will cover the following topics: • A detailed description of the desert tortoise, including color photographs; • The distribution and general behavior of the desert tortoise; • Sensitivity of the species to human activities; • The protection the desert tortoise receives under the Act, including prohibitions and penalties incurred for violation of the Act; • The protective measures being implemented to conserve the desert tortoise during construction activities; and • Procedures and a point of contact if a desert tortoise is observed on-site.				
			(5) **Site Fencing:** Desert tortoise exclusion fencing will be installed around the Project area. The fence will adhere to USFWS design guidelines, available at: http://www.fws.gov/venturaispecies_information/protocols guidelines/docs/dtlDT_Exclusion-Fence_2005.pdf. The qualified biologist will conduct a clearance survey before the tortoise fence is enclosed to ensure no tortoises are on the Project area. If a tortoise is found, all construction activity will halt and the USFWS contacted for direction on how to proceed. Once installed, exclusion fencing will be inspected at least monthly and following all rain events, and corrective action taken if needed to maintain the integrity of the tortoise barrier. Fencing around the Project area will include a desert tortoise exclusion gate. This gate will remain closed at all times, except when vehicles are entering or leaving the Project area. If it is deemed necessary to leave the gate open for extended periods of time (e.g., during high traffic periods), the gate may be left open as long	Applicant	The Riverside County Planning Department authorized biologist	During construction, decommissioning, and ground disturbing activities	Riverside County Planning Department

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			as a qualified biologist is present to monitor for tortoise activity in the vicinity. Sites with potential hazards to desert tortoise (e.g., auger holes, steep-sided depressions) that are outside of the desert tortoise exclusion fencing will be fenced by installing exclusionary fencing, or not left unfilled overnight.				
			(6) **Refuse Disposal:** All trash and food items shall be promptly contained within closed, raven-proof containers. These will be regularly removed from the Project area to reduce the attractiveness of the area to common ravens and other desert predators. The FCR will be responsible for ensuring that trash is removed regularly from the site such that containers do not overflow, and that the trash containers are kept securely closed when not in use.	Applicant	The Riverside County Planning Department authorized biologist	During construction, decommissioning, and ground disturbing activities	Riverside County Planning Department
			(7)**Tortoises under vehicles**: The underneath of vehicles parked outside of desert tortoise exclusion fencing will be inspected immediately prior to the vehicle being moved. If a tortoise is found beneath a vehicle, the vehicle will not be moved until the desert tortoise leaves of its own accord. (8) Tortoises on roads: If a tortoise is observed on or near the road accessing the Project area, vehicular traffic will stop and the tortoise will be allowed to move off the road on its own.	Applicant	The Riverside County Planning Department authorized biologist	During construction, decommissioning, and ground disturbing activities	Riverside County Planning Department, BLM and USFWS
			(8) **Tortoise Observations**: No handling of desert tortoise or burrow excavation is allowed as part of the proposed action. If a tortoise is observed outside of exclusion fencing, construction will stop and the tortoise shall be allowed to move out of the area on its own. If a tortoise or tortoise burrow is observed within the exclusion fencing, all construction will stop, and the USFWS contacted for direction on how to proceed. The following activities are not authorized and will require immediate cessation of the construction activities causing the incident: (1) location of a desert tortoise within the exclusion fencing; (2) imminent threat of injury or death to	Applicant	The Riverside County Planning Department authorized biologist	During construction, decommissioning, and ground disturbing activities	Riverside County Planning Department, BLM and USFWS

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			a desert tortoise; (3) unauthorized handling of a desert tortoise, regardless of intent; (4) operation of construction equipment or vehicles outside a project area cleared of desert tortoise, except on designated roads; and (5) conducting any construction activity without a biological monitor where one is required.				
			(9) **Dead or Injured Specimens:** Upon locating a dead or injured tortoise, the Applicant or agent is to immediately notify the Palm Springs Fish and Wildlife Office by telephone within three days of the finding. Written notification must be made within five days of the finding, both to the appropriate USFWS field office and to the USFWS' Division of Law Enforcement. The information provided must include the date and time of the finding or incident (if known), location of the carcass or injured animal, a photograph, cause of death, if known, and other pertinent information.	Applicant	(The Riverside County Planning Department authorized biologist	(7,8,9, and 10) During construction, decommissioning, and ground disturbing activities	(7,8,9, and 10) Riverside County Planning Department, BLM and USFWS
			Mitigation Measure BIO-6: Burrowing Owl Protection: A Draft Burrowing Owl Monitoring and Mitigation Plan (Plan) has been developed to describe monitoring, reporting, and management of the burrowing owl during the construction, O&M, and decommissioning of the proposed Project, as required by CDFW and County of Riverside. It has been prepared following the 2012 CDFW Staff Report on Burrowing Owl Mitigation (CDFW, 2012), and describes a multi-tiered approach to prevent or reduce impacts during construction and operation of the Project. Below is a general summary of the Plan requirements: • Pre-construction surveys will be conducted throughout the Project area and laydown areas for burrowing owls, possible burrows, and sign of owls (e.g., pellets, feathers, white wash) 30 days prior to construction; • Should any of the pre-construction surveys yield positive results for the presence of burrowing owl or active burrows within the	Applicant	Riverside County Planning Department, designated biologist	Prior to and during construction	Riverside County Planning Department, BLM and CDFW

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			Project area, the approved Biologist will coordinate with the Construction Contractor to implement avoidance and set-back distances. Disturbance of owls or occupied burrows during the breeding season (February 1 through August 31) will not be permitted; • If suitable burrows are observed and documented during the preconstruction surveys within the Project footprint and determined to be inactive, these burrows will be excavated and filled in under the supervision of the approved Biologist(s) prior to clearing and grading; • To compensate for impacts to burrowing owls in activity areas on the northern part of the Project, 146 acres of habitat have been identified adjacent to the Project area. A letter agreeing to dedicate the existing compensation lands must be approved by CDFW and the County prior to ground disturbance. Land used for compensation must be of equal value or better than the land impacted. Ownership of compensation lands will be transferred prior to any surface disturbance to one of the following: the County, or an entity acceptable to the County or CDFW that can effectively manage listed species and their habitats. • The Plan provides detailed methods and guidance for passive relocation of burrowing owls occurring within the Project disturbance area; and • The Plan describes monitoring and management of the passive relocation, including a three-year monitoring program.				
			Mitigation Measure BIO-7: If Project construction activities cannot occur completely outside the bird breeding season, then pre-construction surveys for active nests shall be conducted by a qualified biologist within 1,200	Applicant	Riverside County Planning Department, designated	Prior to and during construction	Riverside County Planning Department and CDFW

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			feet of the construction zone no more than seven days before the initiation of construction that would occur between February 1 and August 15. The qualified biologist will hold a current Memorandum of Understanding with the County of Riverside to conduct nesting bird surveys. If breeding birds with active nests are found, a biological monitor shall establish a species-specific buffer around the nests for construction activities, 250 feet or 1,200 feet for raptor nests. Extent of protection will be based on proposed management activities, human activities existing at the onset of nesting initiation, species, topography, vegetative cover, and other factors. When appropriate, a no-disturbance buffer around active nest sites will be required from nest-site selection to fledging. If for any reason a bird nest must be removed during the nesting season, written documentation providing concurrence from the USFWS and CDFW authorizing the nest relocation shall be obtained. All nest removals shall occur after the nest is demonstrated to be inactive by a qualified biologist and have been shown to not result in take as defined by the Migratory Bird Treaty Act (MBTA). A Bird and Bat Conservation Strategy (BBCS) will be developed for this Project and include additional protections for avian species. The BBCS would be based on specific recommendations from the USFWS and would provide: • a statement of the Applicant's understanding of the importance of bird and bat safety and management's commitment to remain in compliance with relevant laws; • documentation of conservation measures PVMSP would implement through design and operations to avoid and reduce bird and bat fatalities at both solar generation facilities as well as the associated gen-tie line, including consideration of bird height and wingspan requirements and use of flight diverters, perch and nest discouraging material, etc.;		biologist		

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			• consistent, practical and up-to-date direction to PVMSP staff on how to avoid, reduce, and monitor bird and bat fatalities; • establishment of accepted processes to monitor and mitigate bird and bat fatalities; establishment of accepted fatality thresholds that, if surpassed, would trigger adaptive changes to management and mitigation management; • an adaptive management framework to be applied, if thresholds are surpassed; and • A three year post-construction monitoring study. The BBCS would be considered a "living document" that articulates the Applicant's commitment to develop and implement a program to increase avian and bat safety and reduce risk. As progress is made through the program or challenges are encountered, the BBCS may be reviewed, modified, and updated. The initial goals of this BBCS are to: • provide a framework to facilitate compliance with federal law protecting avian species and a means to document compliance for regulators and the interested public; • allow the Agent to manage risk to protected bird and bat species in an organized and cost-effective manner; • establish a mechanism for communication between BMSP managers and natural resource regulators (primarily USFWS); • foster a sense of stewardship with BMSP owners, managers, and field engineers; and • articulate and cultivate a culture of wildlife awareness (specifically birds and bats) and the importance of their protection.				

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			Mitigation Measure BIO-8: To mitigate for permanent habitat loss and direct impacts to Mojave fringe-toed lizards the Applicant shall provide compensatory mitigation at a 3:1 ratio, which may include compensation lands purchased in fee or in easement in whole or in part, for impacts to stabilized or partially stabilized desert dune habitat (i.e., dune, sand ramp, or fine-sandy wash habitat). Suitable Mojave fringe-toed lizard habitat is located throughout the gen-tie line corridor and potential habitat was detected on approximately three percent of the Project area (creosote bush scrub habitat). If compensation lands are acquired, the Applicant shall provide funding for the acquisition in fee title or in easement, initial habitat improvements and long-term maintenance and management of the compensation lands.	Applicant	Riverside County Planning Department	Prior to and during construction	Riverside County Planning Department
			Mitigation Measure BIO-10: A Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) will be developed to summarize all of the various biological mitigation, monitoring, and compliance measures and include measures from the various biological plans and permits developed for PVMSP. The BRMIMP shall include the following: 1. All biological resources mitigation, monitoring, and compliance measures outlined in this EIR; 2. All biological resource mitigation, monitoring and compliance measures required in federal agency terms and conditions, such as those provided in the USFWS concurrence letter that the Project is "not likely to incidentally take or otherwise adversely affect" federally listed species (FWS-ERIV-12B0299-12I0497); 3. All biological resource mitigation, monitoring and compliance measures outlined in the Burrowing Owl Mitigation and Monitoring Plan and the Bird and Bat Conservation Strategy (the full biological plans will be included in the attachments to	Applicant	Riverside County Planning Department, designated biologist	Prior to and during construction	Riverside County Planning Department

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			the BRMIMP); 4. All locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction and operation; 5. Duration for each type of monitoring and a description of monitoring methodologies and frequency; 6. Performance standards to be used to help decide if/when proposed mitigation is or is not successful; and 7. A process for proposing plan modifications to appropriate agencies for review and approval. The BRMIMP document shall be provided at least 60 days prior to start of any Project-related ground disturbing activities to the County for review and approval. Implementation of BRMIMP measures will be reported in the monthly compliance reports by the Lead Biologist (i.e., survey results, construction activities that were monitored, species observed).				
Impact BIO-2: The Project could effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact BIO-3: The Project could have a substantial adverse effect on federal protected wetlands, as defined by Section 404 of the CWA, or State-protected jurisdictional areas not subject to regulation under Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means.	Significant	Less than significant	Implement Mitigation Measures HYD-1 through HYD-4.				
			Mitigation Measure BIO-9: Impacts to areas under jurisdiction of the USACE, Regional Water Quality Control Board (RWQCB), and CDFW shall be avoided as necessary to reduce impacts to less than significant levels. Where avoidance of jurisdictional areas is not necessary to reduce impacts to less than significant levels, including	Applicant	Riverside County Planning Department, designated biologist	Prior to and during construction	Riverside County Planning Department

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			emergency repairs, and access/spur roads within the ephemeral channel, the applicant shall provide the necessary mitigation required as part of wetland permitting. This will include creation, restoration, and/or preservation of suitable jurisdictional habitat along with adequate buffers to protect the function and values of jurisdictional area mitigation. The location(s) of the mitigation will be determined in consultation with the Applicant and the responsible agency(s) as part of the permitting process.				
Impact BIO-4: The Project would 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.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact BIO-5: The Project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Significant	Less than significant	Implement Mitigation Measures BIO-1 through BIO-10				
Impact BIO-6: The Project could substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.	Significant	Less than significant	Implement Mitigation Measures BIO-1 through BIO-10				
Contribution Toward Cumulative Biological Resources Impacts	Significant	Less than significant	Implement Mitigation Measures BIO-1 through BIO-10 and HYD -1 through HYD -4				

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
Cultural Resources							
Impact CUL-1: The Project could cause a substantial adverse change in the significance of a historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5.	Significant	Less than significant	Implement Mitigation Measures HYD-1 through HYD-4				
			Mitigation Measure CUL-1: Prior to any ground disturbances within the Project area, the Applicant shall, for a period of at least 60 days, make a good faith effort to enter into a contract with and retain monitors designated by Tribal representatives. These monitors shall be known as the Tribal Participants for this Project. The developer shall notify the appropriate Tribe of all new phases of development. The Tribal Participants shall be required on-site during all construction-related ground disturbing activities. The developer shall submit the signed contract between the appropriate Tribe and the developer. The Project Archaeologist shall include in the report any concerns or comments the Tribal Participant has regarding the Project and shall include as an appendix any written correspondence or reports prepared by the Tribal Participant.	Applicant	Riverside County Planning Department	Prior to issuance of the first grading permit	Riverside County Planning Department
			Mitigation Measure CUL-2: The County advocates avoidance as the preferred choice, and development of a discovery plan (see CUL-3) shall occur prior to Project construction. If, during ground disturbance activities associated with construction, operation and maintenance, or decommissioning, potentially significant archaeological sites are discovered that were not identified and evaluated in the archaeological survey reports or EIR conducted prior to Project approval, the following procedures shall be followed. 1. All ground disturbance activities within 100 feet of the discovered archaeological resource shall be halted until a meeting is convened between the developer, the Project Archaeologist, the Tribal Participants, and the County to discuss the significance of the find. 2. At the meeting, the significance of the	Applicant	Riverside County Planning Department	During and post construction	Riverside County Planning Department

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			discoveries shall be discussed in consultation with the Tribal Participants and the Project Archaeologist. The County shall determine the appropriate mitigation (documentation, evaluation, recovery, avoidance, etc.) by implementing CEQA Guidelines Section 15126.4(b) regarding mitigation related to impacts on historical resources and CEQA Guidelines Section 15064.5(c) and 21083.2(g) regarding archaeological resources. Mitigation shall comply with Mitigation Measure CUL-3. 3. Further ground disturbance shall not resume within the area of the discovery until a meeting is convened with the aforementioned parties and a decision is made with the concurrence of the County as to the appropriate preservation or mitigation measures. The Applicant shall comply with the determinations of the County.				
			Mitigation Measure CUL-3: Prior to obtaining the Project-related grading permit from the County, the Applicant shall have the Project Archaeologist prepare and submit for approval a Cultural Resources Management Plan (CRMP). The CRMP shall be submitted to the County for approval. The CRMP shall map all known significant or unevaluated cultural resources within the Project area, as described in this EIR. The CRMP shall detail how the one CRHR-eligible resource in the Project area (P-33-002846) and ten cultural resources (P-33-020942, P-33-020943, P-33-020944, P-33-020945, P-33-020946, P-33-020947, P-33-020948, P-33-020949, P-33-020950, P-33-020951) in the Project area that have not been evaluated for CRHR-eligibility are avoided by Project design, and how these 11 resources would be marked and protected as Environmentally Sensitive Areas during construction. The CRMP shall also map additional areas that are considered to be of high sensitivity for discovery of buried significant	Applicant	Riverside County Planning Department and BLM	Prior to grading	Riverside County Planning Department and BLM

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			cultural resources, including burials, cremations, or sacred features. The CRMMP shall include protocol for collection and disposition of recorded archaeological isolates prior to Project construction, through coordination between the Applicant, County, and Tribal Participants. The CRMP shall detail provisions for monitoring construction in these high-sensitivity areas. For all post-review discoveries, the CRMP shall detail the methods, consultation procedures, and timelines for implementing Mitigation Measures CUL-2 and CUL-5, including procedures for halting construction, making appropriate notifications to agencies, officials, and Native American tribes, and assessing CRHR-eligibility. The CRMP shall specify what actions shall be undertaken if, as a result of the process required by the CRMP, it is determined that the Project would significantly impact previously unknown cultural resources. The actions to be taken shall comply with CEQA Guidelines Section 15126.4(b). The CRMP shall be presented to all construction personnel, with Tribal Participants in attendance, in the form of a worker education program by the Project Archaeologist prior to commencement of groundbreaking. During subsequent safety meetings on the job site, the Project Archaeologist and/or their qualified representative shall inform all new construction personnel of the cultural resources issues associated with the Project.				
			Mitigation Measure CUL-4: Prior to the final inspection of the first building permit, the Applicant shall prompt the Project Archaeologist to submit one (1) wet-signed hard copy and one (1) CD of a Cultural Resources Monitoring Report (CRMR) that complies with the current County Planning Department's requirements for Phase IV Cultural Resource Monitoring Reports. The report shall include documentation of the required cultural/historical sensitivity training for the construction staff held during the pre-grade meeting, which shall include the County's	Applicant	Riverside County Planning Department	Prior to issuance of a building permit	Riverside County Planning Department

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			attendance. The County shall review the report to determine adequate mitigation compliance. The accepted report shall be submitted to the County, California Historical Resources Information System Eastern Information Center, the Patton Memorial Museum, and Tribal Participants.				
Impact CUL-2: Implementation of the proposed Project could result in the disturbance of human remains.	Significant	Less than significant	**Mitigation Measure CUL-5:** If human remains are encountered during the course of construction, work in the immediate area shall be halted, a 100-foot diameter buffer established, and arrangements made to protect the remains in place until their disposition has been arranged according to this section. The treatment of human remains and associated and unassociated funerary objects discovered during any ground-disturbing activity shall comply with applicable State laws. This shall include immediate notification of the Riverside County coroner and, in the event of the coroner's determination that the human remains are Native American, notification of the California State Native American Heritage Commission (NAHC), who shall appoint a Most Likely Descendant (MLD) (California Public Resources Code [PRC] Section 5097.98). The Project Archaeologist, Applicant, County, and MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of human remains and associated and unassociated funerary objects (CEQA Guidelines Section 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated and unassociated funerary objects. The PRC allows 48 hours to reach agreement on these matters. If the MLD and the other parties do not agree on the reburial method, PRC Section 5097.98(b) shall be followed: "the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface	Applicant	Riverside County Planning Department Coroner	During construction and operation	Riverside County Planning Department Coroner, NAHC (as applicable)

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			disturbance." Should any dispute arise, the County will request that the NAHC act to mediate the dispute. The site of any reburial of Native American human remains or cultural artifacts shall remain confidential, shall not be disclosed, and shall not be governed by public disclosure requirements of the California Public Records Act (California Government Code Section 6250). No construction activities will be allowed within 100 feet of the discovery site of human remains until a Notice to Proceed is provided by the County.				
Impact CUL-3: Implementation of the proposed Project could result in the alteration or destruction of an historic or archaeological site.	Significant	Less than Significant	Implement Mitigation Measures CUL-1 through CUL-4 and HYD-1 through HYD-4.				
Contribution Toward Cumulative Cultural Resources Impacts	Significant	Less than Significant	Implement Mitigation Measures CUL-1 through CUL-4.				
Geology, Soils and Mineral Resources							
Impact GEO-1a: The Project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving rupture of a known earthquake fault.	Less than significant	Less than Significant	None required	N/A	N/A	N/A	N/A
Impact GEO-1b: The Project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving strong seismic ground shaking.	Significant	Less than Significant	**Mitigation Measure GEO-1:** Prior to final design and construction, a site-specific subsurface geotechnical evaluation/report shall be prepared to evaluate the potential ground-shaking hazard, which would meet the requirements of the most recent version of the California Building Code. A state certified Project geologist shall ensure appropriate structural design and mitigation techniques achieve adequate protection according to industry standards and building code requirements.	Applicant	Riverside County Planning Department	Prior to issuance of a grading or excavation permit	Riverside County Planning Department

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			Mitigation Measure GEO-2: Should future data suggest the presence of active faulting at the Project area, a fault evaluation may be performed. Mitigation of potential fault rupture hazard would typically include locating improvements away from the trace of an active fault, designing structures for an acceptable amount of movement, or implementing systems to maintain safety and that allow for displacement that could be repaired.	Applicant	Riverside County Planning Department	Prior to issuance of a grading or excavation permit	Riverside County Planning Department
Impact GEO-1c: The Project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving liquefaction.	Significant	Less than Significant	Implementation of Mitigation Measures GEO-1, GEO-2				
			Mitigation Measure GEO-3: Based on the nature, location and severity of adverse soil conditions, the geotechnical study shall recommend appropriate and feasible design features necessary to reduce the potential for liquefiable, expansive, corrosive, or collapsible soils, as necessary, to adversely affect Project facilities. Such measures might include removal of loose soil layers to be replaced with compacted fill or specialized foundation design, including the use of deep foundation systems, to support structures in accordance with industry standards and building code requirements.	Applicant	Riverside County Planning Department	Prior to issuance of a grading or excavation permit	Riverside County Planning Department
Impact GEO-2: The Project would be susceptible to wind and water erosion which could result in substantial soil erosion or the loss of topsoil.	Significant	Less than Significant	Implement Mitigation Measures HYD-1 through HYD-4				
Impact GEO-3: The Project could be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Significant	Less than Significant	Implement Mitigation Measure GEO-1 through GEO-3				
Impact GEO-4: The Project could be located on expansive	Significant	Less than Significant	Implement Mitigation Measure GEO-1 and GEO-3				

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life and property.							
Impact GEO-5: The Project could have soils that are incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water or result in grading that affects or negates subsurface sewage disposal systems.	Significant	Less than Significant	**Mitigation Measure GEO-4:** Removal of loose soil layers shall be replaced with compacted fill or specialized foundation design, including the use of deep foundation systems, to support structures. The septic system shall be placed in soils capable of adequately supporting the septic system as determined by the Project Geologist and in accordance with County requirements specified in the Department of Environmental Health Technical Guidance Manual.	Applicant	The Riverside County Department of Environmental Health Services	Prior to installation of the septic system on-site	The Riverside County Department of Environmental Health Services
Impact MR-1: The Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.	Less than significant	Less than Significant	None required	N/A	N/A	N/A	N/A
Contribution Toward Cumulative Geology and Soils Impacts	Less than significant	Less than Significant	None required	N/A	N/A	N/A	N/A
Greenhouse Gas Emissions							
Impact GHG-1: The Project could generate greenhouse gas emissions that may have a significant impact on the environment.	Less than significant	Less than Significant	None required	N/A	N/A	N/A	N/A
Contribution Toward Cumulative Greenhouse Gas Emissions Impacts	Less than significant	Less than Significant	None required	N/A	N/A	N/A	N/A
Hazards and Hazardous Materials							
Impact HAZ-1: The Project could create a significant hazard to the public or the environment through the	Significant	Less than Significant	**Mitigation Measure HAZ-1:** Prior to issuance of a grading permit, a Phase II soil investigation shall be prepared by a qualified environmental consultant to evaluate the potential presence of	Applicant	Riverside County Building and Safety	Prior to issuance of permits for any demolition	Riverside County Building and Safety

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
routine transport, use, or disposal of hazardous materials.			residual pesticides or herbicides from past agricultural land uses. The investigation shall be in accordance with the recommendations of the November 27, 2012 Kennedy Jenks Phase I report. Any soils found to contain residual contaminants in exceedance of regulatory action levels that are determined by the consultant to represent a potential hazard to construction workers or future workers and visitors shall be removed from the site in accordance with Riverside County Department of Environmental Health oversight.		Department	activity	Department
			Mitigation Measure HAZ-2: Worker Environmental Awareness Program. The Worker Environmental Awareness Program (WEAP) shall include a personal protective equipment (PPE) program, an Emergency Action Plan (EAP), and an Injury and Illness Prevention Program (IIPP) to address health and safety issues associated with normal and unusual (emergency) conditions. Construction-related safety programs and procedures shall include a respiratory protection program, among other things. Construction would be undertaken sequentially in accordance with a Construction Plan that shall include the final design documents, work plan, health and safety plans, permits, project schedule, and operation and maintenance manuals. Construction Plan documents shall relate at least to the following: 1. Environmental health and safety training (including, but not limited, to training on the hazards of Valley Fever, including the symptoms, proper work procedures, how to use PPE, and informing supervisor of suspected symptoms of work-related Valley Fever) 2. Site security measures 3. Site first aid training 4. Construction testing (non-destructive examination, hydro, etc.) requirements 5. Site fire protection and extinguisher maintenance, guidance, and	Applicant	Riverside County Planning Department	During construction, decommissioning, and ground disturbing activities	Riverside County Planning Department

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			documentation 6. Furnishing and servicing of sanitary facilities records 7. Trash collection and disposal schedule/records 8. Disposal of hazardous materials and waste guidance in accordance with local, state, and federal regulations				
Impact HAZ-2: The Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Less than significant	Less than Significant	None required	N/A	N/A	N/A	N/A
Impact HAZ-3: The Project is located within an airport land use plan and could result in a safety hazard for people residing or working in the project area.	Significant	Less than Significant	**Mitigation Measure Haz-3:** Prior to issuance of a grading or building permit, the Applicant shall submit all required plans and proposals to the Riverside County Airport Land Use Commission (RCALUC) and the Federal Aviation Administration (FAA) for Title 14 CFR Federal Aviation Regulations (FAR) Part 77 review. Commencement of construction shall not begin prior to final approval from RCALUC and FAA with any modifications required as part of the review incorporated into project design.	Applicant	Riverside County Planning Department	During construction, decommissioning, and ground disturbing activities	Riverside County Planning Department
Impact HAZ-4: The Project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less than significant	Less than Significant	None required	N/A	N/A	N/A	N/A

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
Impact HAZ-5: The Project could expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	Significant	Less than Significant	Implement Mitigation Measure HAZ-2.				
Other Hazard Issues of Concern	Significant	Less than Significant	Implement Mitigation Measure HAZ-2.				
Contribution Toward Cumulative Hazards and Hazardous Materials Impacts	Less than significant	Less than Significant	Implement Mitigation Measures HAZ-1 through HAZ-3.				
Hydrology and Water Quality							
Impact HYD-1: The Project could violate water quality standard or waste discharge regulation.	Significant	Less than Significant	Implement Mitigation Measure BIO-9.				
			Mitigation Measure HYD-1: Existing drainage crossings shall be utilized at streams, washes, and irrigation channels to the full extent necessary to reduce impacts to less than significant levels. New access roads not required for ongoing operation and maintenance shall be permanently closed after construction using the most effective and least environmentally damaging methods appropriate to that specific area, with concurrence of the land manager (e.g., stockpiling and replacing topsoil, rock replacement) in a manner that most closely matches undisturbed conditions of the area to emulate natural drainage patterns.	Applicant	Riverside County Flood Control District	During construction, decommissioning, and ground disturbing activities	Riverside County Flood Control District.
Impact HYD-2: The Project could 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	Less than significant	Less than Significant	None required	N/A	N/A	N/A	N/A

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
groundwater table.							
Impact HYD-3: The Project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site.	Significant	Less than Significant	Implement Mitigation Measures BIO-9 and HYD-1				
			Mitigation Measure HYD-2: Roads would be built as near as possible to right angles to streams and washes. Culverts would be installed where necessary and sized in accordance with local county regulations. All construction and maintenance activities shall be conducted in a manner that would minimize disturbance to vegetation and drainage channels, including ephemeral stream banks. Culverts shall also be designed with minimum impacts to floodplains. Any encroachment into or modification of the floodplain shall only be permitted in accordance with the District's approval based on demonstrative evidence that no adverse effects would occur upstream or downstream of the site. In addition, road construction would include dust-control measures during construction especially in sensitive areas. All existing roads would be left in a condition equal to or better than their condition prior to the construction of the gen-tie line and other Project components.	Applicant	Riverside County Flood Control District	During construction and post construction	Riverside County Flood Control District
			Mitigation Measure HYD-3: Stormwater drainage inside substations would be designed to minimize erosion and increase sediment control. Internal runoff would be released from the switching station by means of surface drainage structures designed to filter contaminants from water flow. Drainage from the property would be collected and controlled by surface improvements, as detailed in the Drainage, Erosion, and Sedimentation Control Plan (BMP-1).	Applicant	Riverside County Flood Control District	Prior to and during construction	Riverside County Flood Control District

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
Impact HYD-4: The project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, and substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site.	Significant	Less than significant	Implement Mitigation Measures BIO-9 and HYD-1 through HYD-3				
			Mitigation Measure HYD-4: New impervious areas associated with temporary construction would be restored to existing conditions, including but not limited to revegetation, to the extent possible after completion of Project construction.	Applicant	Riverside County Flood Control District	During post construction	Riverside County Flood Control District
Impact HYD-5: The Project could create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Significant	Less than significant	Implement Mitigation Measures HYD-3 and HYD-4				
			Mitigation Measure HYD-5: All new buildings (e.g., substation) shall be flood-proofed by constructing the finished floor a minimum of 24 inches above the highest adjacent ground or 100 year water surface elevation, whichever is greater, based on a final Floodplain Delineation Study with supporting calculations in accordance with County requirements. The final Floodplain Delineation Study shall be approved by the County prior to issuance of a building permit. Slope protection may be required for buildings on fill. New buildings shall be located outside of the well-defined watercourses of the floodplains. Additionally, the solar panels shall have a minimum clearance of 24 inches above the highest adjacent ground when upright to ensure flows are not obstructed.	Applicant	Riverside County Flood Control District	Prior to construction	Riverside County Flood Control District
Impact HYD-6: The project could substantially degrade water quality.	Significant	Less than significant	Implement Mitigation Measures BIO-9 and HYD-1 through HYD-4				
Impact HYD-7: The Project would place within a 100-year flood hazard area structures which would impede or redirect flood flows.	Significant	Less than significant	Implement Mitigation Measure HYD-5				
			Mitigation Measure HYD-6: No flow obstructing fences (chain link, block wall, etc.) shall be constructed along the north and west property lines, since these types of fences obstruct flows causing damage to adjacent properties. Fencing used in these areas shall contain openings of 3	Applicant	Riverside County Flood Control District	Prior to construction	Riverside County Flood Control District

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			inches high by 6 inches wide for first 18" from the bottom, and openings of 4 inches high by 6 inches wide for the next 8 inches and so forth. This fencing or equivalent shall be provided to allow the free flow of storm or flood runoff. No setback is required with the use of this fencing. A detail of this fencing shall be provided to the County of Riverside.				
Impact HYD-8 The project could expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Contribution Toward Cumulative Hydrology and Water Quality Impacts	Significant	Less than significant	Implement Mitigation Measures BIO-9 and HYD-1 through HYD-6				
Land Use and Planning							
Impact LU-1: The Project could conflict with applicable land use plans, policies, or regulations of agencies with jurisdiction over the Project adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact LU-2: The Project could result in a substantial alteration of the present or planned land use of an area.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact LU-3: The Project could affect land use within a city sphere of influence and/or within adjacent city or county boundaries.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact LU-4: The Project is consistent with the site's existing or proposed zoning.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
Contribution Toward Cumulative Land Use Impacts	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Noise							
Impact NOI-1: Construction of the Project could result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Significant	Less than significant	**Mitigation Measure NOI-1**: Construction shall be prohibited in areas within 0.25 mile (1,320 feet) of residents, between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May. The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receivers nearest the project site during project construction. No music or electronically reinforced speech from construction workers shall be audible at noise-sensitive properties. During all project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. Where feasible, the construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.	Applicant	Riverside County Planning Department	During construction, decommissioning, and ground disturbing activities	Riverside County Planning Department
			Mitigation Measure NOI-2: Prior to and during construction, decommissioning, and ground disturbing activities, the applicant shall provide at least two weeks' advance notice of construction and decommissioning. Notices shall be mailed directly to land owners and residents within 2,400 feet of the Project boundary, and signs shall be a minimum size of 4 feet high by 6 feet wide and posted at the solar facility in areas accessible to the public. Notices shall announce when and where construction would occur; provide tips on reducing noise intrusion (e.g., closing windows facing the planned construction); and provide contact information for the local public liaison for any noise complaints.	Applicant	Riverside County Planning Department	Prior to and during construction, decommissioning, and ground disturbing activities	Riverside County Planning Department

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			Mitigation Measure NOI-3: The applicant would implement a Hearing Conservation Program and Personal Protective Equipment Program that would provide personal protective devices for specific jobs that would produce excessive noise levels. The Applicant shall comply with the Occupational Safety and Health Administration's (OSHA) regulations on occupational noise exposure.	Applicant	Riverside County Planning Department	Prior to and during construction, decommissioning, and ground disturbing activities.	Riverside County Planning Department
Impact NOI-2: Construction of the Project could create a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Significant	Less than significant	Implement Mitigation Measure NOI-1 through NOI-3				
Impact NOI-3: The Project could expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.	Less than significant	Less than significant	None required		N/A	N/A	N/A
Impact NOI-4: The Project would be located within an airport land use plan, which could result in the exposure of people working in the Project area to excessive noise levels.	Significant	Less than significant	Implement Mitigation Measure NOI-3				
Impact NOI-5: The Project could create a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact NOI-6: The Project could result in impacts from railroad or highway noise.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Contribution Toward Cumulative Noise Impacts	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
Paleontological Resources							
Impact PALEO-1: The Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Significant	Less than significant	**Mitigation Measure PALEO-1:** Prior to issuing any grading or excavation permits for activities within any area of the Project area, and prior to any Project-related ground-disturbing activities of that area, the Applicant shall implement procedures to monitor, avoid, and/or recover unique paleontological resources discovered during ground-disturbing activities. These procedures, the Paleontological Resources Monitoring and Mitigation Plan (PRMMP), shall be developed by a qualified vertebrate paleontologist and submitted for approval by the County of Riverside for private lands, and the BLM for BLM-managed lands. The PRMMP shall specify how mitigation measures Paleontology-1, Paleontology-2, and Paleontology-3 shall be implemented. This PRMMP shall be consistent with the provisions of CEQA, as well as with regulations currently implemented by the County of Riverside, the BLM and the proposed guidelines of the SVP. The PRMMP shall include, but not be limited to: 1. A requirement that, during excavations in areas underlain by geologic units identified as having a high paleontologic sensitivity under Society of Vertebrate Paleontology guidelines (or a PFYC rating of 3b or higher) and likely to contain paleontologic resources, a qualified vertebrate paleontologist, who is a Registered Professional Geologist, shall direct the paleontologic monitoring by a qualified paleontologic monitor. Areas of concern include all previously undisturbed paleontologic sensitive sediments of the fossiliferous Pleistocene Palo Verde Mesa Alluvium. alluvial deposits of the Palo Verde Mesa and alluvial deposits of the McCoy Wash area. 2. A requirement that paleontologic monitors be equipped to salvage fossils as unearthed to avoid construction delays and to remove samples of sediments likely to	Applicant	Riverside County Planning Department and BLM	Prior to issuing any grading or excavation permits	Riverside County Planning Department and BLM

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			contain the remains of small fossil invertebrates and vertebrates. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. 3. Identification of the processes for preparation of recovered specimens to a point of identification. If the paleontologic monitor determines that the resource is unique, it shall be prepared for permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. 4. A requirement that a report be prepared documenting all finds with permanent retrievable paleontologic storage for curation of specimens. The paleontologist should have a written repository agreement in hand prior to the initiation of mitigation activities. Mitigation of adverse impacts to unique paleontologic resources is not complete until such curation into an established museum repository has been fully completed and documented. 5. A requirement that a report be prepared documenting all finds with an appended itemized inventory of specimens. The report and inventory, when submitted to the County with respect to private lands, and to the BLM with respect to BLM-managed lands, along with confirmation of the curation of recovered unique paleontological specimens into an established, accredited museum repository, would signify completion of the PRMMP to mitigate impacts to paleontologic resources.				
			Mitigation Measure PALEO-2: Prior to issuance of the first grading permit, a worker training program shall be prepared and include information on the recognition of the types of paleontological resources that could be encountered within the Project area and referral of finds to the paleontologic monitor if they are	Applicant	Riverside County Planning Department	Prior to issuance of the first grading permit	Riverside County Planning Department

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			found. This information shall be presented to Project construction personnel and Project operation and maintenance personnel by a qualified professional paleontologist.				
			Mitigation Measure PALEO-3: If construction or other Project personnel discover any potential fossils during construction, operation and maintenance, or decommissioning, the fossils shall be left undisturbed and the paleontological monitor shall be notified immediately and shall then take appropriate actions to evaluate the find in accordance with the PRMMP.	Applicant	Riverside County Planning Department	During construction, decommissioning, and ground disturbing activities	Riverside County Planning Department
Contribution Toward Cumulative Paleontological Impacts	Significant	Less than significant	Implement Mitigation Measures PALEO-1 through PALEO-3				
Population and Housing							
Impact POP-1: The Project could induce substantial population growth in an area, either directly or indirectly.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Contribution Toward Cumulative Population and Housing Impacts	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Public Services and Utilities							
Impact PSU-1: The Project could result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities; and/or result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
objectives for public services.							
Impact PSU-2: The Project could result in the construction of new storm water drainage facilities or expansion of existing facilities, which could cause significant environmental effects.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact PSU-3: The Project could have insufficient water supplies available to serve the project from existing entitlements and resources.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact PSU-4: The Project could be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs and would comply with federal, state, and local statutes and regulations related to solid waste.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Contribution Toward Cumulative Public Services and Utilities Impacts	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Recreation							
Impact REC-1: The Project could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated**.**	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Contribution Toward Cumulative Recreation Impacts	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
Traffic and Transportation							
Impact TRA-1: The Project could conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system.	Significant	Less than significant	**Mitigation MeasureTRA-1:** A construction phase Traffic Management Plan would be prepared in consultation with Caltrans and Riverside County for the roadway network potentially affected by construction activities at the Project area and off-site gen-tie line facilities. In order to achieve acceptable LOS, the Traffic Management Plan would include a plan to split the workforce and stagger arrival times during peak construction periods along with a traffic LOS and queue monitoring program, as determined necessary by the County's Transportation Department staff. The plan would be based upon the analysis set forth in this EIR. Carpooling shall also be required of contractor employees during the construction phase to help achieve acceptable LOS levels. In addition to the above-mentioned measures, other approaches could be considered to reduce peak hour traffic, such as requiring contractors to arrange employee busing and/or employee participation in park and ride.	Applicant	Riverside County Transportation Department and Caltrans	Prior to construction	Riverside County Transportation Department and Caltrans
			Mitigation MeasureTRA-2: The contractor would conduct construction activities in accordance with Caltrans' applicable limitations on vehicle sizes and weights, Construction Excavation Permits obtained from Riverside County, Encroachment Permits from Caltrans, and permits and licenses from the California Highway Patrol and Caltrans for the transport of hazardous substances.	Applicant	Riverside County Transportation Department	During construction, decommissioning, and ground disturbing activities	Riverside County Transportation Department and Caltrans
Impact TRA-2: The Project would not conflict with an applicable congestion management program.	Significant	Less than significant	Implement Mitigation Measures TRA-1 and TRA-2				
Impact TRA-3: The Project could result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety	Significant	Less than significant	Implement Mitigation Measures HAZ-2 and HAZ-3				

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
risks; result in a change in air traffic levels or a change in location and result in substantial safety risks.							
Impact TRA-4: The Project would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Significant	Less than significant	Implement Mitigation Measures TRA-1 and TRA-2				
Impact TRA-5: The Project would not result in inadequate emergency access or result in the need for new or altered maintenance of roads.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Impact TRA-6: The Project could conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	Less than significant	Less than significant	None required	N/A	N/A	N/A	N/A
Contribution Toward Cumulative Traffic and Circulation Impacts	Significant	Less than significant	Implement Mitigation Measures TRA-1 and TRA-2.				
			Mitigation Measure TRA-3: Construction traffic coordination shall be required to address potential cumulative traffic issues associated with concurrent construction of several large projects with large workforces, approximately from 2015 through 2017. The Applicant shall coordinate construction traffic with applicable traffic management (e.g., Caltrans, Riverside County, and City of Blythe) as well as BLM representatives, as determined appropriate and necessary by the listed agencies. The Applicant shall also coordinate construction traffic with other proponents of renewable energy projects in the I-10 corridor. Cumulatively considerable projects shall be identified and the appropriate	Applicant	Riverside County Planning Department	During construction, decommissioning, and ground disturbing activities	Riverside County Planning Department, Caltrans, BLM, and City of Blythe

Environmental Impact	Significance before Mitigation	Significance after Mitigation	Mitigation Measures	Responsible Party	Responsible Monitoring Party	Monitoring Phase/Timing	Verification Approval Party
			staggered arrival times or other approaches (such as busing, park and ride, or carpooling) will be prescribed to achieve an acceptable LOS.				
Other CEQA Considerations							
Growth Inducing Impacts	Less than significant	Less than significant	None Required	N/A	N/A	N/A	N/A
Irreversible and Irretrievable commitments of Resources	Less than significant	Less than significant	None Required	N/A	N/A	N/A	N/A
Energy Consumption	Less than significant	Less than significant	None Required	N/A	N/A	N/A	N/A

CHAPTER 1
Introduction

1.1 Overview

In compliance with the California Environmental Quality Act (CEQA), the County of Riverside (County) is the Lead Agency responsible for preparation of this Draft Environmental Impact Report (EIR) for the Palo Verde Mesa Solar Project (PVMSP or Project). As the CEQA Lead Agency, the County is responsible for coordinating with the Project applicant, Renewable Resources Group, Inc. (Applicant), the public and responsible agencies during the CEQA process. This EIR will inform the public and decision-makers at local and State permitting agencies of potentially significant impacts associated with the Project and identify means of reducing or eliminating those impacts. The information contained within this EIR will be considered by applicable decision-makers in determining whether to grant the necessary Project approvals.

The Applicant is proposing the PVMSP, which would generate up to 450 megawatts (MW) of electricity from solar photovoltaic (PV) panels on approximately 3,400 acres in eastern Riverside County, California. Approximately 3,224 acres would be within the County of Riverside's jurisdiction and would require a Conditional Use Permit (CUP) for the construction, operation, and decommissioning of the solar facility and gen-tie line. A Public Use Permit (PUP) from the County would also be required for the gen-tie line crossing of Hobson Way Boulevard. In addition to the CUP and PUP, the Applicant has proposed entering into a Development Agreement with the County for the PVMSP consistent with the County's solar power plant program. Approximately 21 acres of the Project's gen-tie line would be within the City of Blythe's jurisdiction and would require a CUP. Approximately 48.2 acres of the Project's gen-tie line would traverse lands managed by the Bureau of Land Management (BLM) and require a Right of Way Grant, however as explained below, this approval is not being pursued immediately. If approved, the Project would interconnect to the electrical grid at Southern California Edison's (SCE) Colorado River Substation.

1.2 California Environmental Quality Act

Under CEQA, as amended (Public Resources Code Section 21080(a)), an environmental review document must be prepared, reviewed, and certified by the decision-making body before action is taken on any non-exempt discretionary project proposed to be carried out or approved by a state or local public agency in the state of California.

1.2.1 Purpose of the EIR

This EIR is an informational disclosure document for the County, responsible agencies, and other interested parties. The following are included among the stated purposes of an EIR in the CEQA Guidelines:

- Disclose significant environmental impacts that are expected to result from the construction, operation, maintenance and decommissioning of the proposed project;
- Indicate ways in which significant impacts can be avoided or mitigated;
- Identify any unavoidable adverse impacts that cannot be mitigated; and
- Identify feasible alternatives to the project that would substantially lessen eliminate significant adverse impacts.

This Draft EIR has been distributed for review by responsible agencies, trustee agencies with resources affected by the Project, and other interested agencies and individuals. The County will consider the Draft EIR, comments received on the Draft EIR, responses to those comments, and any changes to the Draft EIR, before deciding whether to certify the Final EIR and take action on the proposed Project.

Comments on this Draft EIR should focus on the adequacy of the document in identifying and analyzing the potential environmental effects, determination of significance, and effectiveness of mitigation measures.

1.3 Terminology Used in this Document

CEQA documents include the use of specific terminology. To aid the reader in understanding terminology and language used throughout this document, the following CEQA terms are defined below:

Project: The whole of an action that has the potential to result in a direct or indirect physical change in the environment.

Environment: The baseline physical conditions that exist in the area before commencement of the proposed Project and that would be potentially affected or altered by the proposed Project. The environment is where significant direct or indirect impacts could occur as a result of Project implementation, and it includes such elements as air, biological resources (i.e., flora and fauna), land, ambient noise, mineral resources, water, and objects of aesthetic or cultural significance.

Direct impacts: Impacts that would result in a direct physical change in the environment as a result of Project implementation. Direct impacts would occur at the same time and place as the Project.

Indirect or secondary impacts: Impacts that would result from proposed Project implementation but that may occur later in time or farther removed in distance.

Significant impact on the environment: A substantial, or potentially substantial, adverse change in physical conditions that is the result of proposed Project implementation. This can include substantial or potentially substantial adverse changes to air, biological resources (flora or fauna), land, water, minerals, ambient noise, and objects of cultural or aesthetic significance. An economic or social change may factor into an assessment of whether a physical impact is significant, but it not itself a significant impact on the environment.

Mitigation measures: Project-specific actions that, if adopted, avoid or substantially reduce the proposed Project's significant environmental effects. Effective mitigation measures can:

- Avoid the impact altogether;
- minimize the impact by reducing the degree or magnitude of the action and its implications;
- rectify the impact by repairing, rehabilitating, or restoring the affected environment;
- reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action; or
- compensate for the impact by replacing or providing substitute resources or environments.

Best Management Practices (BMPs): Measures that avoid, minimize, or reduce impacts, which are distinguished from mitigation measures in this EIR because BMPs are: 1) requirements of existing policies, practices, and measures required by law, regulation, or local policy; 2) ongoing, regularly occurring practices; and 3) not specific to this proposed Project. The BMPs identified in this EIR are inherently part of the proposed Project and are not additional mitigation measures proposed as a result of the significance findings from the CEQA environmental review process.

Cumulative impacts: Two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. The following statements also apply when considering cumulative impacts:

- The individual impacts may be changes resulting from a single project or a number of separate projects.
- The cumulative impact from several projects is the change in the environment that 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 time.

Terms used in this document to describe the level of significance of adverse impacts are defined as follows:

- **No Impact:** An impact to a specific environmental resource would not occur.
- **Less than significant:** An impact that is adverse but that falls below the defined thresholds of significance and does not require mitigation.

- **Less than significant with mitigation incorporated:** An impact that exceeds the defined thresholds of significance but is reduced to a less than significant level through the incorporation of mitigation measures.
- **Significant:** An impact that exceeds the defined thresholds of significance. A significant impact would or could potentially cause a substantial adverse change in the environment and would require incorporation of feasible mitigation measures to eliminate the impact or reduce it to less than significant.
- **Significant and unavoidable:** An impact that cannot be eliminated or lessened to a less-than-significant level through incorporation of mitigation measures.

1.4 Public Review and Noticing

CEQA requires lead agencies to solicit, record, and evaluate feedback from other agencies, the public, and other interested parties to aid decision-making. Additionally, CEQA requires the Project to be monitored after it has been permitted to ensure that mitigation measures are implemented, as appropriate.

Public and agency participation in the CEQA process for the proposed Project has and will continue to occur through the steps described below.

1.4.1 Notice of Preparation

In compliance with Section 15082 of the CEQA Guidelines, a Notice of Preparation (NOP) was issued on August 8, 2012. The notice briefly described the proposed Project,] Project location, environmental review process, potential environmental effects, and opportunities for public involvement[1]. A map was also included that illustrated the Study Area boundary.

Copies of the NOP were mailed to the Office of Planning and Research (State Clearinghouse) for issuance to State agencies. The NOP was filed with the Riverside County Clerk on August 8, 2012. It was also mailed to agencies, organizations, local governments, elected officials, Native American Tribes, and other parties known to be interested in the Project. The NOP solicited input regarding the scope and content of the environmental information to be included in the Draft EIR.

The public comment period for the NOP began on August 8, 2012 and ended on September 10, 2012. A full copy of the NOP and the list of the agencies, elected officials, and Native American Tribes that received the NOP are provided in Appendix A.

[1] The Notice of Preparation described a 486-MW project. Since that NOP was published, the Project details have been further refined, and it has been determined that the Project would generate no more than 450 MW. All comments on the NOP have been taken into account in preparing this EIR on the Project in its refined, 486-MW configuration.

1.4.2 Public Scoping Meeting

In compliance with CCR Section 15082(c), Riverside County conducted a public scoping meeting to inform the public about the Project; provide information regarding the environmental review process; and gather public input regarding the scope and content of the Draft EIR. The public scoping meeting was held on the following date and location:

August 23, 2012; 6:00 p.m. to 7:00 p.m.
Blythe City Council Chambers
235 N. Broadway
Blythe, CA 92225

In August 2012, a flyer was mailed to 109 property owners within 2,400 feet of the proposed Project boundary (Appendix D of the Scoping Report). The flyer briefly described the proposed Project and the date, time, and location of the scoping meeting. The scoping meeting was announced in the NOP. The meeting was also advertised in the Palo Verde Valley Times and Press Enterprise on August 10, 2012. The Scoping Report Appendix contains copies of the newspaper advertisements and meeting materials (PowerPoint Presentation, display boards, and comment form) that were used at the scoping meetings. The meeting transcripts may also be found in the Scoping Report provided in Appendix A.

Four people signed in at the scoping meeting (August 23, 2012). Attendees were encouraged to provide comments by filling out a comment form.

1.4.3 Native American Outreach

In December 2011, a letter was submitted to the Native American Heritage Commission (NAHC) requesting information regarding Native American groups that may have historic ties to, and interest in, the proposed Project area. The NAHC identified ten Native American Tribes in the proposed Project area that could be interested in the proposed Project. In January 2012, letters of interest were sent to the ten Tribes identified by the NAHC. A representative letter to the Tribes may be found in Appendix A of the Scoping Report. One response was received, which came from the Agua Caliente Band of Cahuilla Indians' Tribal Historic Preservation Officer. This response letter is also included in Appendix A. The Morongo Band of Mission Indians and the Soboba Band of Luiseño Indians submitted comments, as well as the NAHC. Comments can be found in Appendix A.

1.4.4 Review of Draft EIR

A Notice of Completion (NOC) was filed with the State Clearinghouse to begin the public review period (Public Resources Code [PRC], Section 21161) for this Draft EIR. Pursuant to PRC Section 21092.3 and CEQA Guidelines Section 15087(c), a notice of availability of this Draft EIR was posted in the Riverside County Clerk's office.

This Draft EIR was distributed directly to agencies, organizations, and interested individuals, and made publicly available for review and comment in accordance with Section 15087 of the CEQA

Guidelines and PRC 21092(b)(3). In compliance with CEQA Guidelines Section 15129, a list of federal, State, and local agencies and other organizations contacted in preparation of this Draft EIR is provided in Appendix A.

The Draft EIR and the studies upon which it is based are available for review at the locations shown in **Table 1-1.**

TABLE 1-1
DOCUMENT REPOSITORY SITES

Repository Site	Address
Riverside County Planning Department	4080 Lemon Street, 12th Floor Riverside, CA 92502-14
Palo Verde Valley District Library	125 West Chanslor Way, Blythe, CA 91115
Lake Tamarisk Branch Library	43-880 Lake Tamarisk Drive, Desert Center, CA 92239

The Draft EIR is also available for review online at http://www.rctlma.org/planning/. Organizations and interested members of the public are invited to comment on the information presented in this Draft EIR during the 45-day public review period.

Written comments may be mailed, emailed or faxed using the following contact information:

Russell Brady, Planner
Riverside County Planning Department
4080 Lemon Street, 12th Floor, Riverside CA, 92501
Phone: (951) 955-3025, Fax: (951) 955-1811
Email: rbrady@rctlma.org

Riverside County intends to hold a public meeting to receive comments on the Draft EIR. The public meeting will be noticed and agendized in accordance with the County's standard practices. All significant environmental issues raised in comments received during the public review period for the Draft EIR will be responded to in the Final EIR.

1.4.5 Preparation and Certification of Final EIR and MMRP

Following consideration of the comments received during this Draft EIR comment period, the Final EIR will be prepared and circulated per CEQA requirements, and will include responses to all comments that raise significant environmental issues. The Final EIR, and Project consideration by the County of Supervisors, is anticipated in Fall 2016.

The Final EIR will include comments received on the Draft EIR and responses to those comments, along with any modifications to the Draft EIR. In addition, Section 15097 of the CEQA Guidelines requires that public agencies adopt a program for monitoring mitigation measures that reduce or eliminate significant impacts on the environment. Accordingly, a

Mitigation Monitoring and Reporting Program (MMRP) will be prepared for the proposed Project and included as part of the Final EIR.

The County will consider all comments on the Draft EIR before deciding whether to certify the Final EIR and make a decision whether or not to approve the Project.

1.5 Scoping Comments Summary

This section summarizes the verbal and written comments received from the public and agencies during the scoping period for the proposed Project. A total of nine comment letters were received during the scoping period. Copies of the original comment letters received during the NOP scoping period may be found in Appendix F of the Scoping Report. A full copy of the Scoping Report is provided in Appendix A.

Table 1-2 contains a summary of the issues and concerns that were raised by the commenters. The comments are organized by issue topic and were considered during the preparation of this Draft EIR.

TABLE 1-2
SCOPING COMMENTS SUMMARY

Resource Topic	Comment Summary	Section of EIR Where Comment Is Addressed
Aesthetics	Light reflection to nearby development from the solar panels was of concern to a public commenter, as well as the use of night lighting.	Section 3.1
Agriculture and Forestry Resources	A public commenter was concerned about the loss of farmland due to implementation of the proposed Project. The commenter was concerned that the PVMSP could impact the use of future farmland in the surrounding area. There was also concern that the Proposed Project's existence could decrease the nutrients in the soil and impact the value of future farmland.	Section 3.2
Air Quality	The Mojave Desert Air Quality Management District recommended that the County require implementation of fugitive dust best management practices (BMPs), including but not limited to applicable provisions of District Rule 403.2, during grading and construction; access and maintenance roads should also be stabilized. A member of the public also commented on the need for proper mitigation to control dust in the proposed Project area and related impacts to local residents and crops.	Section 3.3
Biological Resources	A member of the public commented on the potential impacts of extensive fencing on the Project site in regard to wildlife movement.	Section 3.4
Cultural Resources	The Morongo Band of Mission Indians commented that specific conditions should be imposed due to the proposed Project's siting within an area considered of traditional use and possessing cultural ties for the Tribe. Specific conditions include the following: contact the County of Riverside Coroner upon encountering human remains; cease all work in the immediate vicinity of discovered Native American cultural resources; contact the Morongo Band of Mission Indians if cultural resources are found. The NAHC requested that the lead agency coordinate with the NAHC to do a Sacred Lands File search as part of the proposed Project. Early consultation with Native American Tribes in the area is recommended and required. Tribes must be provided with all pertinent Project information. The NAHC recommended avoidance and resource documentation, as defined by CEQA Guidelines 15370(a) and Public Resources Code	Section 3.5

Resource Topic	Comment Summary	Section of EIR Where Comment Is Addressed
	21083.2, respectively, for a project that would damage and/or destroy Native American cultural resources. In addition, the historic context of the proposed Project and the cultural landscape must be considered. Any potential cultural resources discovered in the proposed Project area may not be disclosed to keep historic properties of religious and cultural significance confidential. If Native American cultural sites and/or Native American burial sites are prevalent within the proposed Project site, the NAHC recommended "avoidance" of the site as defined by CEQA Guidelines Section 15370(a). The Soboba Band of Luiseño Indians commented that the proposed Project area falls within the bounds of a Tribal Traditional Use Area, which is in close proximity to known village sites and areas used in ongoing trade between the Luiseño and Cahuilla tribes. Specific requests were mentioned, including direct consultation during the life of the proposed Project, project progress updates regarding new developments, inclusion of a Native American monitoring component under mitigation, and implementation of a Treatment and Dispositions Agreement between the developer and the Soboba Band of Luiseño Indians prior to issuance of a grading permit and before conducting additional archaeological fieldwork. The Soboba Band of Luiseño Indians also requested that proper procedures and requests of the Tribe be honored regarding cultural artifacts and the treatment and disposition of remains (including coordination with the County Coroner's Office and the non-disclosure of the location of reburials).	
Hazards and Hazardous Material	The Federal Aviation Administration commented on the requirement to submit a Notice of Proposed Construction or Alteration for the proposed Project.	Section 3.8
Hydrology and Water Quality	Comments were made by the public regarding impacts to drainage and erosion on the proposed Project site due to the further removal of vegetation; McCoy Wash was of specific concern.	Section 3.9
Land Use and Planning	A member of the public commented on the potential of the proposed Project to impact future development in the vicinity. Impacts to property values and future development are feared to restrict natural growth in the surrounding area.	Section 3.10
Noise	Construction noise was of concern to a public commenter; daylight construction restrictions were suggested.	Section 3.11
Public Services and Utilities	The Riverside County Waste Management Department (RCWMD) commented on the potentially large quantity of construction and demolition waste generated by the proposed Project and the area capacity for disposal. The RCWMD recommended that the Draft EIR quantitatively analyze the potential solid waste impact. The RCWMD also recommended measures to reduce waste and preserve landfill capacity through submission of a Waste Recycling Plan (WRP) identifying waste materials generated, amounts, recycling methods, facilities utilized, and a log of recycling and waste disposal activities during construction and decommissioning. Evidence of compliance with the approved WRP should be submitted to the Planning Division of the RCWMD. The RCWMD advised that all hazardous waste generated should be disposed of at a permitted hazardous waste disposal facility.	Section 3.14
Traffic and Transportation	A member of the public questioned how the proposed Project would impact the public dedications of Stephenson Boulevard, Oden Way, 8th Avenue, and Neighbours Boulevard. In addition, a public commenter expressed concern over the proposed fencing and the blockage of historically used roadways.	Section 3.16

1.6 EIR Format and Content

This EIR addresses the potential environmental effects of the Project and was prepared following input from the public and responsible and affected agencies, and through the EIR scoping process, as discussed previously. This EIR addresses potentially significant environmental effects on the following:

- Aesthetics
- Agricultural and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils, and Mineral Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Paleontological Resources
- Population and Housing
- Public Services and Utilities
- Recreation
- Traffic and Transportation

CEQA Guidelines provide that each EIR contain certain essential elements of discussion. **Table 1-3** identifies each element that must be included in an EIR along with a reference to the corresponding section where the element is discussed.

TABLE 1-3
REQUIRED EIR DISCUSSION ELEMENTS

EA/EIR Section	CEQA Required Element/CEQA Guidelines
Table of Contents	Table of Contents (Section 15122)
Executive Summary	Summary (Section 15123)
Chapter 1, *Introduction*; Chapter 2, *Project Description*	Project Description (Section 15124) • List of Agencies Expected to Use the EIR • List of Required Permits and Approvals • List of Related Review and Consultation Requirements • List of Organizations, Agencies, and Persons Consulted (Section 15129) • Regional Map • Project Objectives • Precise location and boundaries of the Project • Project's Characteristics
Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*	Environmental Setting (Section 15125) • Effects Found Not to Be Significant (Section 15128) • Environmental Impact Analysis (Section 15126) • Significant Environmental Effects • Significant Environmental Effects that Cannot Be Avoided • Mitigation Measures • Cumulative Impacts (Section 15130)

EA/EIR Section	CEQA Required Element/CEQA Guidelines
Chapter 4, *Other CEQA Considerations*	Long-Term Implications of the Proposed Project (Section 15126.2) • Significant Irreversible Environmental Changes • Growth-Inducing Impacts • Energy Conservation
Chapter 5, *Alternatives*	Alternatives to the Proposed Project (Section 15126) • "No Project"
Chapter 6, List of Preparers	List of Preparers (Section 15129)
Chapter 7, *References*	References (Section 15129)

The contents of this EIR are organized in the following manner.

Executive Summary: The Executive Summary of the EIR provides a summary of the project description and a summary of the environmental impacts and mitigation measures.

Chapter 1. Introduction: The Introduction provides CEQA compliance information, an overview of the decision-making process, organization of the EIR, a responsible and trustee agency list and a list of organizations, agencies, and persons consulted in the preparation of this EIR.

Chapter 2. Project Description: This chapter gives an overview of solar technology and describes the objectives to be achieved by the proposed Project. The location and characteristics of the Project are detailed along with a description of the surrounding land uses. Construction and operational aspects of the Project and relevant background information are also included.

Chapter 3. Environmental Setting, Impacts, and Mitigation Measures: This chapter of the EIR contains a detailed environmental analysis of the existing conditions, project impacts, mitigation measures, and cumulative impacts.

Chapter 4. Other CEQA Considerations: This chapter presents an analysis of the Project's growth-inducing impacts and other CEQA requirements, irreversible commitment of resources, significant and unavoidable impacts and energy conservation.

Chapter 5. Alternatives: This chapter describes the alternatives to the Project.

Chapter 6. List of Preparers: This chapter provides a list of individuals that prepared or contributed to this Draft EIR.

Chapter 7. References: This chapter lists reference materials used to prepare the Draft EIR.

Appendices: The NOP, technical reports and studies, and other relevant information are included as appendices. The appendices are contained in a separate volume.

1.7 Agencies Relying on the EIR; Anticipated Permits and Approvals

The majority of the PVMSP would be located on private lands under County jurisdiction, which would require discretionary approvals from Riverside County. The Applicant is seeking a 30-year CUP for the construction, operation, and decommissioning of the proposed solar facility and gen-tie line, as well as a PUP for portions of the gen-tie line that would traverse County Roads (Buck Boulevard and Hobson Way). In addition to the CUP and PUP, the Applicant has proposed entering into a Development Agreement with the County for the PVMSP consistent with the County's solar power plant program. The Development Agreement has a term of 30 years and will grant the applicant vesting rights to develop the PVMSP in accordance with the terms of the agreement. The Development Agreement contains terms consistent with Board of Supervisors Policy No. B-29, including terms regarding annual public benefits payments and increases and terms requiring the applicant to take actions to ensure allocation directly to the County of the sales and use taxes payable in connection with the construction of the solar power plant, to the maximum extent possible under the law. Approval and use of the CUP and PUP is conditioned upon the Development Agreement being entered into and effective. The County has the primary governmental authority for the approval of the proposed Project. As such, the County is the Lead Agency responsible for preparation of the EIR to assess and disclose the environmental consequences associated with Project implementation.

The City of Blythe is a responsible agency that has actively participated in the CEQA process and review of the EIR. The City will consider the EIR when deciding whether to issue a CUP and PUP for the portion of the Project within the City's jurisdiction.

Table 1-4 below provides a list of the anticipated federal, State, and local permits and approvals that would be required for the proposed Project, and includes the agencies that are anticipated to rely on the EIR. Other relevant laws, regulations, plans, and policies applicable to the proposed Project are summarized in the resource- and issue-specific sections in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*.

It is anticipated that BLM may rely upon the information contained in this EIR when it reviews the environmental impact of its proposed actions under NEPA. However, such review would occur at a later date. While the BLM is being consulted in preparation of this document, the BLM is not participating as a joint preparer of this document, and the BLM is not circulating this document for comments.

TABLE 1-4
AUTHORIZATIONS, PERMITS, AND APPROVALS

Accepting Authority/ Approving Agency	Permit/Approval/Reviewing Action	Triggering Action	Statutory Reference
FEDERAL			
U.S. Department of the Interior, Bureau of Land Management (BLM)	Grant of Right of Way and Temporary Use Permit	Proposed gen-tie line construction and operation would occur, in part, on lands under BLM management	Federal Land Policy and Management Act of 1976 (PL 94-579); USC 1761-1771; 43 CFR 2800. National Environmental Policy Act of 1969 as amended (PL 91-190) and related statutes
United States Army Corps of Engineers	Nationwide Permit 12	Proposed gen-tie line construction and operation would occur, in part, within waters of the United States	Clean Water Act, Section 404
STATE OF CALIFORNIA			
California Department of Fish and Wildlife	Lake or Streambed Alteration Agreement	Proposed construction and operation may require alteration of a streambed	California Fish and Game Code, Section 1601
State Water Resources Control Board – California Water Quality Control Boards for Colorado River Region	The applicants must demonstrate compliance with General Discharge Permits for Storm Water Associated with Construction Activity	Proposed construction may involve storm water discharges to surface Waters of the State	Clean Water Act, Section 402
California Department of Transportation, District 8	Encroachment Permit	Proposed construction and operations would occur within and across a California highway ROW	The California Streets and Highways Code, Sections 660 to 734
REGIONAL/LOCAL			
County of Riverside	Conditional Use Permit Public Use Permit Development Agreement	Proposed construction and operation of the Project is located within County jurisdiction	County of Riverside Zoning Ordinance (Ordinance No. 348; CEQA, California Public Resources Code, Sec. 21000 et seq.
City of Blythe	Conditional Use Permit	Proposed construction and operation of the Project is located within the City limits	City of Blythe, Code of Ordinances, Title 17, Zoning

1.7.1 Related State and Local Review and Consultation Requirements

Ancillary permits, including encroachment permits, grading and construction permits, and certificates of occupancy, are anticipated from the County and the City. These permits and approvals are local ministerial actions that will follow CEQA compliance. Other State and local agencies or regulatory entities that could exercise authority over specific elements of the proposed Project are described below.

- Riverside County Airport Land Use Commission (ALUC): In October, 2012, the ALUC reviewed the Project site layout, transmission components, glint and glare analysis, and

ancillary facilities and found the Project is consistent with the 2004 Blythe Airport Land Use Compatibility Plan, subject to a number of conditions (see Appendix K).

- California Department of Fish and Wildlife: Informal consultation has occurred with the California Department of Fish and Wildlife, Inland Desert Region, concerning the scope of biological resource studies and species of interest relative to the proposed Project.
- Mojave Desert Air Quality Management District (MDAQMD): Permits regulating air pollutant emissions during Project construction, operation, and decommissioning are anticipated to be issued by the MDAQMD upon demonstration that the Project will comply with local air regulations.
- Palo Verde Irrigation District (PVID) and County Service Area #22: The Applicant consulted with the PVID regarding the availability of non-potable water supplies to serve the proposed Project, including preparation of Water Supply Assessment pursuant to State law. The County Service Area #22 (potable water purveyor), issued a will-serve letter.
- State Historic Preservation Officer (SHPO): Prior to the commencement of archaeological field surveys of the Project site, the Applicant requested from the NAHC a list of Native American Tribes that should be contacted for information about cultural resources that may occur in the area near and on the Project site. Information requests were submitted to the listed Tribes via U.S. mail. BLM is expected to consult with the SHPO when it processes the ROW and temporary use permit applications.
- California Independent System Operator (CAISO): The Applicant has applied for and been granted a reservation by CAISO for a secured interconnection queue position sufficient for the size of the Project at the Colorado River Substation. This is a necessary element of being able to transmit generated power to the statewide electric grid.

The Project is being pursued in accordance with land use amendments recently adopted by Riverside County. These include General Plan Amendment (GPA) 1080, which added Land Use Policy LU-15.15, stating: “Permit and encourage, in an environmentally and fiscally responsible manner, the development of renewable energy resources and related infrastructure, including but not limited to, the development of solar power plants in the County of Riverside.” In connection with GPA 1080, Riverside also enacted Ordinance No. 348.4705, which amended the zoning code to allow a solar power plant on a lot 10 acres or larger in certain zoning districts[2], upon issuance of a use permit.

[2] The zoning districts are: General Commercial (C-1/C-P), Commercial Tourist (C-T), Scenic Highway Commercial (C-P-S), Rural Commercial (C-R), Industrial Park (I-P), Manufacturing Servicing Commercial (M-SC), Medium Manufacturing (M-M), Heavy Manufacturing (M-H), Mineral Resources (M-R), Mineral Resource and Related Manufacturing (M-R-A), Light Agriculture (A-1), Light Agriculture with Poultry (A-P), Heavy Agriculture (A-2), Agriculture-Dairy (A-D), Controlled Development (W-2), Regulated Development Areas (R-D), Natural Assets (N-A), Waterways and Watercourses (W-1), and Wind Energy Resource Zone (W-E).

1.7.2 Related Federal Review and Consultation Requirements

In addition to complying with CEQA, the Project would comply with federal regulations and authorizations and conduct necessary consultations regarding the resources potentially affected by the proposed Project. Such consultations include but are not limited to:

- Federal Aviation Administration (FAA), Objects Affecting Navigable Airspace: In conjunction with ALUC project review, the Applicant submitted tower structure locations and other relevant Project features to the FAA for formal hazard determination under 49 U.S.C. 1501; 13 CFR 77, Objects Affecting Navigable Airspace. The FAA conducted an aeronautical study and found that the Project would be a hazard to air navigation. Prior to construction, the Applicant must submit a Notice to Construct (FAA Form 7460-2) and receive authorization from the FAA.

- U.S. Army Corps of Engineers (USACE) Jurisdictional Waters: The USACE has jurisdiction to protect the aquatic ecosystem, including water quality and wetland resources, under Section 404 of the Clean Water Act. Under that authority, the USACE regulates the discharge of dredged or fill material into waters of the United States, including wetlands, by reviewing proposed projects to determine whether they may impact such resources and, thereby, are subject to retain a Section 404 permit. The Applicant has informally consulted with the USACE to assist the agency in making a determination regarding its jurisdiction and the need for a Section 404 permit. A Nationwide Permit 12 approval will be required for the construction, operation, and decommissioning of a single transmission pole associated with the gen-tie line (Pole 43), which would cross waters of the U.S. Because construction of Pole 43 would result in a discharge of dredged material into waters of the United States (U.S.), a USACE permit would be required pursuant to Section 404 of the Clean Water Act (33 USC §1344; 33 CFR parts 323 and 330). On December 8, 2015, the USACE issued a letter determination stating that construction of Pole 43, as proposed, complies with Nationwide Permit12, *Utility Line Activities.* A full copy of the letter is provided in Appendix G.

- Bureau of Land Management (BLM): The PVMSP would utilize a vacant circuit position, if available, on the Blythe Mesa Solar Project's (BMSP) double-circuit 230 kV transmission line poles. Instead of constructing 14.5 miles of new gen-tie line poles, the PVMSP would string 8.9 miles of the new 230 kV circuit onto the vacant position of the BMSP's double-circuit poles from the PVMSP's northernmost substation to the Colorado River Substation. The BMSP gen-tie line traverses 2.8 miles of federal lands managed by the BLM. .Construction, operation, and maintenance of the BMSP gen-tie line was analyzed in a joint EIR/Environmental Assessment (EIR/EA) that was certified by the Riverside County Board of Supervisors in March 2015 and a Finding of No Significant Impact and Decision Record were issued by the BLM in August 2015. If the BMSP line is constructed first, the PVMSP would string its line onto the BMSP's transmission line towers; alternatively, the PVMSP would confirm with BLM that the portion of the BMSP

gen-tie line that would be necessary for the PVMSP could be constructed, operated, and maintained in reliance on the existing federal analysis and authorization of the line.

- U.S. Fish and Wildlife Service (USFWS): The BMSP gen-tie line traverses 2.8 miles of federal lands managed by the BLM and was the subject of Endangered Species Act Section 7 consultation between BLM and the USFWS. Consultation resulted in a letter from the USFWS to BLM concluding that, with recommended mitigation, the gen-tie line would not be likely to affect listed or threatened species (i.e., desert tortoise). A full copy of the USFWS concurrence letter stating that the BMSP gen-tie line is not likely to incidentally take or otherwise adversely affect desert tortoise is provided in Appendix D. If the BMSP line is constructed first, the PVMSP would string its line onto the BMSP's transmission line towers; alternatively, the PVMSP would confirm with BLM and USFWS that the portion of the BMSP gen-tie line that would be needed for the PVMSP could be constructed, operated, and maintained in reliance on the existing federal analysis and approvals, including the USFWS letter.

1.8 List of Organizations, Agencies, and Persons Consulted

In compliance with CEQA Guidelines Section 15129, **Table 1-5** below identifies federal, State, or local agencies and other organizations contacted in preparation of this Draft EIR.

TABLE 1-5
LIST OF AGENCIES CONSULTED IN PREPARATION OF THIS EIR

FEDERAL AGENCIES			
Bureau of Land Management California Desert District	U.S. Fish and Wildlife Service *Cleary-Rose, Karin* *Monitoring Program Coordinator*	U.S. Department of the Interior National Park Service, Joshua Tree National Park	U.S. Department of the Interior Bureau of Indian Affairs
Federal Aviation Administration Western Pacific Region	Marine Corps Air/Ground Combat Ctr. Commanding General	Bureau of Indian Affairs Southern California Agency	
STATE AGENCIES			
California Air Resources Board	California Energy Commission	California State Department of Parks & Recreation	California Department of Water Resources
Caltrans District #8 *Kopulsky, Dan*	Caltrans Division of Aeronautics	California State Department of Corrections Chuckwalla Valley State Prison	Colorado River Board of California
California Geological Survey Department of Conservation *State Geologist*	California Department of Conservation	California Department of Conservation Mining & Geology Board	California Department of Fish & Game Inland Deserts

STATE AGENCIES (cont.)

California Department of Fish and Game
Eastern Sierra Inland Deserts Region
MacNair, Leslie
Staff Environmental Scientist

Mojave Desert Air Quality Management District

Native American Heritage Commission

Regional Water Quality Control Board #7
Colorado River Basin

Southern California Association of Governments
Roth, Erik H.
Manager

COUNTY AGENCIES

Riverside County Building and Safety Department
Laura, Mike
Director of Building & Safety

Riverside County Planning Commission
Zuppardo, Jan
c/o Bowie, Desiree
Planning Commission Secretary

Riverside County Environmental Health
Senior Public Health Engineer

Riverside County Environmental Health Hazardous Materials

Riverside County Environmental Programs Department
Bond, Jared

Riverside County Executive Office

Riverside County Flood Control District
Degaga, Mekbif

Riverside County Regional Parks & Open Space District
Brewer, Marc

Riverside County Economic Development Agency

Riverside County Water Resources Management

Desert Permit Assistance Center

Riverside County Fire Department
Desert Office

Riverside County Assessor

Los Angeles County Planning Department

Western Riverside County Regional Conservation Authority
Landry, Charles
Executive Director

Orange County Environmental & Project Planning Service Division

Imperial County Planning Department
Heuberger, Jurg

La Paz County Planning Department
Baker, Mike
Acting Planning & Zone Director

San Bernardino County Planning Department

San Diego County Planning Department

CITY/LOCAL AGENCIES

Airport Land Use Commission
Guerin, John
Principal Planner

Coachella Valley Association of Government

City of Blythe Community Services District
Development Services Director

City of Blythe Development Services Department

Blythe City Council
East Blythe Water District

Palo Verde Irrigation District

Palo Verde Resource Conservation District

ELECTED OFFICIALS

County of Riverside 4th Supervisor District, Board of Supervisors *Benoit, John* *Supervisor*	County of Riverside 5th Supervisor District, Board of Supervisors *Ashley, Marion* *Supervisor*

NATIVE AMERICAN TRIBES

Agua Caliente Band of Cahuilla Indians *Tuck, Patricia* *Tribal Historic Preservation Officer*	AhaMaKav Cultural Society, Fort Mojave Indian Tribe *Otero, Linda* *Director*	Ah-Mut-Pipa Foundation (Quechan Kumeyaay) *Arrow-weed, Preston, J.*	Augustine Band of Cahuilla Mission Indians (Cahuilla) *Green, Mary Ann* *Chairperson*
Augustine Band of Cahuilla Mission Indians (Cahuilla) *Kupcha, Karen*	Cabazon Band of Mission Indians *Roosevelt, David* *Chairperson*	Cahuilla Band of Indians *Salgado, Luther* *Sr. Chairperson*	Chemehuevi *Benitez, Joseph R. (Mike)*
Chemehuevi Reservation *Wood, Charles* *Chairperson*	Cocopah Museum/Cultural resources Dept. (Cocopah) *McCormick, Jill* *Tribal Archaeologist*	Colorado River Indian Tribe (Mojave, Chemehuevi) *Scott, Ginger* *Museum Curator*	Colorado River Indian Tribe (Mojave, Chemehuevi) *Ray, George* *Coordinator*
Fort Mojave Indian Tribe (Mojave) *McDowell, Nora* *Cultural Resources Coordinator*	Fort Yuma Quechan Indian Nation (Quechan) *Jackson, Michael* *President*	Morongo Band of Mission Indians (Cahuilla, Serrano) *Contreras, Michael* *Cultural Heritage Program Coordinator*	Quechan Indian Nation *Nash-Chrabascz, Bridget* *Tribal Historic Preservation Office*
Ramona Band of Cahuilla Mission Indians (Cahuilla) *Hamilton, Joseph* *Chairman*	San Manuel Band of Mission Indians (Serrano) *Brierty, Ann* *Policy/Cultural Resources Dept.*	Santa Rosa Band of Mission Indians (Cahuilla) *Estrada, Mayme* *Chairwoman*	Torres-Martinez Desert Cahuilla Indians (Cahuilla) *Chihuahua, Diana L.* *Vice Chairperson, Cultural*
Torres-Martinez Desert Cahuilla Indians (Cahuilla) *Resvaloso, Mary*	Twenty-nine Palms Band of Mission Indians (Chemehuevi) *Mike, Darrell* *Chairperson*		

1.9 Primary Contact Person

The primary contact person for this EIR is Russell Brady and his contact information is listed below:

Russell Brady, Planner
Riverside County Planning Department
4080 Lemon Street, 12th Floor, Riverside CA, 92501
Phone: (951) 955-3025, Fax: (951) 955-1811
Email: rbrady@rctlma.org

CHAPTER 2
Project Description

2.1 Introduction

Renewable Resources Group, Inc. (Applicant) is proposing the construction, operation, maintenance, and decommissioning of the Palo Verde Mesa Solar Project (PVMSP or Project), an up to 450 megawatt (MW) alternating current solar photovoltaic (PV) electrical generating facility and associated infrastructure to provide site access and connection to the statewide electricity transmission grid.

The proposed Project is located on approximately 3,400 acres[1] in the Palo Verde Mesa region of Riverside County—3,250 acres for the solar facility site and 143 acres for the 230 kilovolt (kV) gen-tie line. The solar facility is comprised of three sites that would be constructed in phases. Site 1 (Phase 1) would total 905 acres and would have a generation output of 145 MW; Site 2 (Phase 2) would total 1,343 acres and would have a generation output of 221 MW; and Site 3 (Phase 3) would total 1,002 acres and would have a generation output of 104 MW. The power produced by the Project would be conveyed to the local power grid via interconnection to the Southern California Edison (SCE) Colorado River Substation (CRS), an approved new substation located south of Interstate 10 (I-10) and approximately seven miles west of the Project area. The Project has secured a California Independent System Operator (CAISO) interconnection queue position sufficient for the size of the Project. The Project would produce enough energy to power approximately 180,000 households and progress the goals of the California Renewable Portfolio Standard (RPS) and other similar renewable programs in the state.

2.1.1 Overview of Solar Technology

Solar cells, also called PV cells, convert sunlight directly into electricity. PV gets its name from the process of converting light (photons) to electricity (voltage), which is called the PV effect.

PV cells are located on panels, which are mounted at a fixed angle facing south or on a tracking device that follows the sun. Many solar panels on multiple rows combined together and controlled by a single motor create one system called a solar tracker. For large electric utility or industrial applications, hundreds of solar trackers are interconnected to form a large utility-scale PV system.

2.1.2 Insolation

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/m^2) or kilowatt-hours per square meter per day ($kWh/m^2/day$). The region in which the proposed Project is located

[1] The total acreage for the solar facility site and gen-tie line would occupy 3,393 acres (rounded up to 3,400 acres).

receives anywhere between 6.0 and 7.0 kWh/m^2/day of solar radiation energy, giving it a higher degree of solar radiation than most areas within the U.S. (NREL 2012).

2.2 Project Objectives

The objectives for the proposed Project are to:

- Construct a solar energy facility to facilitate meeting State and federal renewable energy standards and goals.
- Assist with State and federal greenhouse gas (GHG) emission reduction objectives.
- Locate the Project facilities as near as possible to electrical transmission facilities with anticipated capacity and a reserved CAISO interconnection position.
- Site the Project in an area with excellent solar energy resources in order to maximize productivity from the PV panels.
- To the extent feasible, site the Project on disturbed land with compatible topography and in a manner that minimizes environmental impacts.
- Use a proven and available solar PV technology.

2.2.1 California's Renewable Energy Standards and Goals

California's Renewable Portfolio Standard (RPS) required California's investor-owned electric utilities to obtain 20 percent of the electricity that they supply from renewable sources by 2010. Executive Order S-14-08 mandated that "all retail sellers of electricity shall serve 33 percent of their load with renewable energy by 2020." In April 2011, Governor Edmund G. Brown, Jr. signed Senate Bill X1-2 that established a new RPS goal of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, 33 percent by the end of 2020, and 50 percent by 2030. State government agencies have been directed to take all appropriate actions to implement this target in all regulatory proceedings, including siting, permitting, and procurement for renewable energy power plants and transmission lines. To date, renewable energy comprises an average of only 13 percent of the electricity supplied by California's investor-owned utilities.

2.2.2 Greenhouse Gas Reduction

California produces approximately 6.2 percent of the total U.S. GHG emissions. In 2005, Governor Arnold Schwarzenegger issued an executive order (S-03-05) on climate change to advance renewable energy and other solutions to lower California's GHG emissions. Further, the California Global Warming Solutions Act of 2006 (Assembly Bill 32) established a comprehensive program of regulatory and market mechanisms to reduce GHG emissions to 1990 levels by the year 2020. The construction of renewable energy power plants to meet the State's GHG reduction objectives and RPS standard is critical.

The California Air Resources Board (CARB) determined that electricity generation accounts for approximately 22 percent of carbon dioxide (CO_2) emissions in California due to the burning of

fossil fuel energy sources such as coal and natural gas. The PVMSP is anticipated to produce approximately 1,062,635,000 kilowatt hours (kWh) of electrical energy per year that has corresponding operational GHG emissions of approximately 806 metric tons of CO_2 equivalent (CO_2e), including amortized construction and operational emissions (refer to the Air Quality Technical Report in Appendix C). In comparison, gas turbine and coal-fired power plants of the same electrical energy output are estimated to produce approximately 371,922 and 1,062,635 metric tons of CO_2e, respectively. The net GHG emission displacement or offset of the PVMSP's solar facility in place of a conventional fossil-fuel combustion power plant therefore is estimated to range from 371,116 to 1,061,829 CO_2e per year.

2.2.3 Proximity to Electrical Transmission Facilities

A major impediment to meeting the RPS is transmission line capacity and availability. CAISO manages the high-voltage transmission system and controls the process of obtaining rights to interconnect to the statewide grid. To obtain permission to interconnect with transmission facilities, an electric generator must submit an interconnection application to CAISO, which then places the electric generator into the "interconnection queue" and evaluates and apportions the cost of any associated transmission facility upgrades. Accordingly, a key driver in achieving the State's RPS is to locate renewable energy power plants where transmission capacity is expected to be available and sufficient queue position has been reserved by the electric generator, such that interconnection approvals can be granted within the near term. The PVMSP has secured an interconnection queue position sufficient for the size of the Project at the CRS and has made the necessary reservation deposits to CAISO.

The PVMSP would be located within seven miles of SCE's CRS, a component of the Devers-Palo Verde 2 Transmission Line project, which received its approval from the California Public Utilities Commission (CPUC) in July 2011 (Decision D.11-07-011) and is under construction. As illustrated in Figure 2-1, *Existing and Planned Electrical Facilities*, portions of the Project's proposed 230 kV gen-tie line would be co-located with the existing 161 kV Niland-Blythe Transmission Line, planned 220 kV Blythe Solar Millennium Transmission Line, and approved 500 kV Devers-Palo Verde 2 Transmission Line.

2.2.4 Priority Solar Resource Area

As previously mentioned, the region in which the proposed Project is located receives anywhere between 6.0 and 7.0 kilowatt hours per square meter per day ($kWh/m^2/day$) of solar radiation energy, giving it a higher degree of solar radiation than most areas within the U.S. (NREL 2012). The Department of the Interior's Bureau of Land Management (BLM) and the Department of Energy (DOE) prepared a Solar Energy Programmatic Environmental Impact Statement that identified the Riverside East Solar Energy Zone as having a high potential for solar resources and identified it as a priority area for utility-scale solar energy development (BLM and DOE 2012). The proposed Project would be located adjacent to the Riverside East Solar Energy Zone as illustrated in **Figure 2-2**. Also, there are a number of proposed and approved solar projects that have been proposed or constructed in close proximity to the Project area (refer to the Cumulative Project Map *(Figure 3-1*).

2.2.5 Site the Project on Disturbed Land and Minimize Adverse Environmental Impacts

To minimize adverse environmental impacts, such as impacts to biological, cultural and water resources, the proposed Project would be sited on land with flat topography that has been previously disturbed by agricultural activities and previous military operations. Chapter 4 of this document further assesses the environmental consequences that would result from the proposed Project. The proposed 230 kV gen-tie line would be co-located with other existing and planned high-voltage transmission lines within federally designated utility corridors (**Figure 2-3**). This EIR conservatively evaluates the impacts of constructing all facilities needed for the gen-tie line; however, if a vacant circuit position is available at the time of construction, the proposed Project would string the 230 kV gen-tie line onto existing transmission line towers (i.e., the Blythe Mesa Solar Project [BMSP]), as further described below.

2.2.6 Use a Proven and Available Solar PV Technology

The PVMSP would use proven and available solar PV technology that provides efficient solar energy. Solar PV is a common technology used on homes and school rooftops. According to the 2011 U.S. Solar Market Insight Report, 1,855 MW of PV solar systems have been installed in the U.S. as of 2011 and the cumulative PV capacity operating in the country now stands at 3,954 MW (Solar Energy Industries Association 2011).

2.3 Description of the Proposed Project

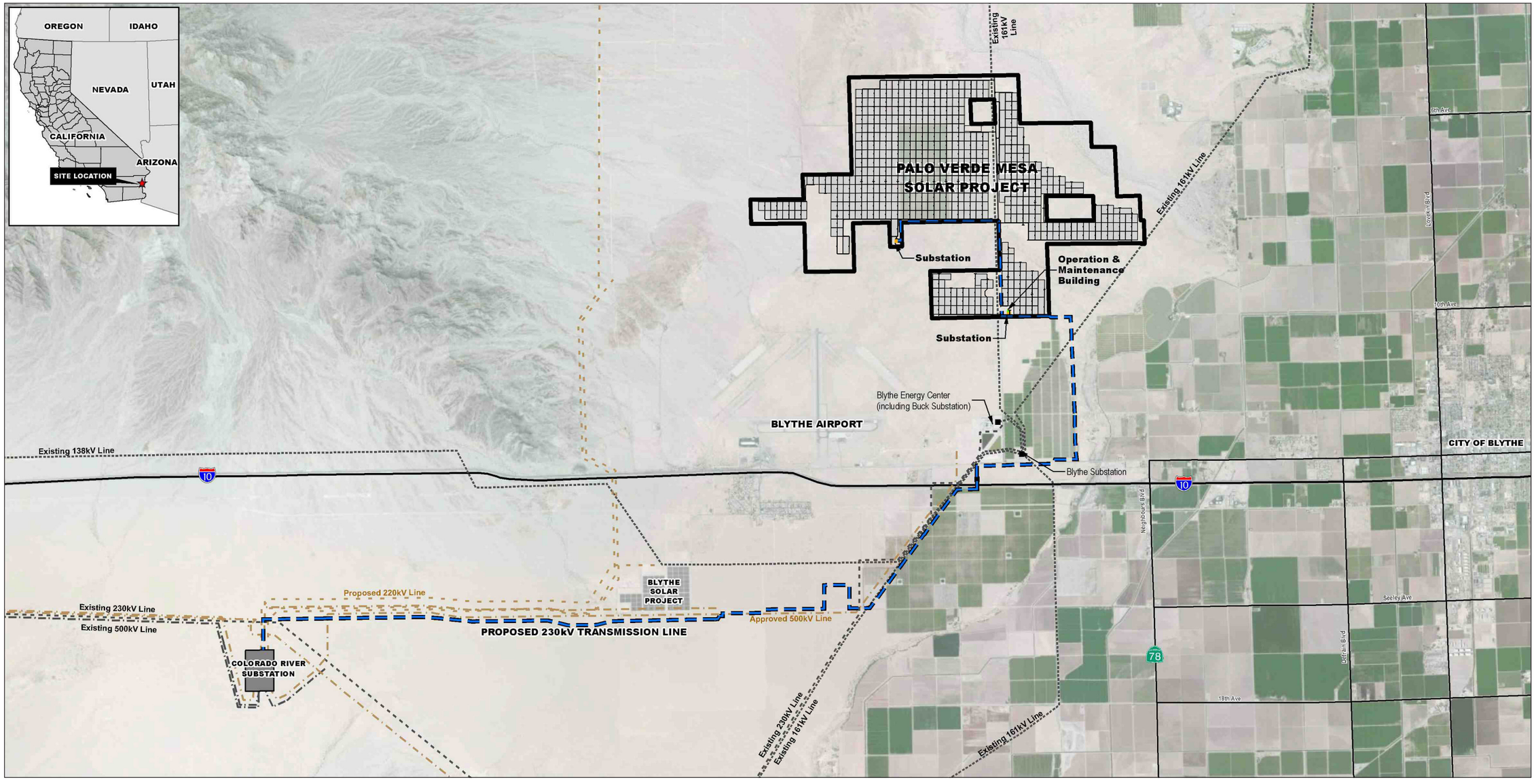
2.3.1 Project Location and Surrounding Land Uses

The PVMSP is located in the Palo Verde Mesa area of eastern Riverside County, approximately five miles northwest of central Blythe and 40 miles east of Desert Center. More specifically, the proposed Project's solar facility site would be located north of I-10, west of Neighbors Boulevard, and north of the Blythe Airport. The 230 kV gen-tie would be located north and south of the I-10 freeway. **Figure 2-4**, ***Regional Map***, illustrates the location of the proposed Project.

The solar facility site is located within the County of Riverside's jurisdiction. The 230 kV gen-tie line would traverse mainly County of Riverside jurisdiction, as well as the City of Blythe jurisdiction and BLM-managed lands.

Figure 2-5, ***Project Area Map***, illustrates jurisdiction and surrounding development in the Project area. Surrounding development includes the community of Nicholls Warm Springs/Mesa Verde, Blythe Airport, the 520-MW natural gas-fired Blythe Energy Center (including Buck Substation), Blythe Substation, other high voltage electrical transmission lines, Blythe Solar Project (owned by NRG), ancillary agricultural facilities, and dirt roads.

In this EIR, the terms "Project area" and "PVMSP area" refer to the proposed 450 MW PV facility and 230 kV gen-tie line that would occupy approximately 3,400 acres. The term "solar facility site" is defined as the solar facility site boundary consisting of 3,250 acres.



- Palo Verde Mesa 230 kV Transmission Line
- Solar Facility Site
- 1.5MW Solar Module
- Operations & Maintenance Building
- Substation
- Colorado River Substation
- Existing 230 kV Line
- Existing 500 kV Line
- Existing 138-161 kV Line
- Proposed 220/230 kV Line
- Proposed 500 kV Line
- Archeological Sites

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Miles

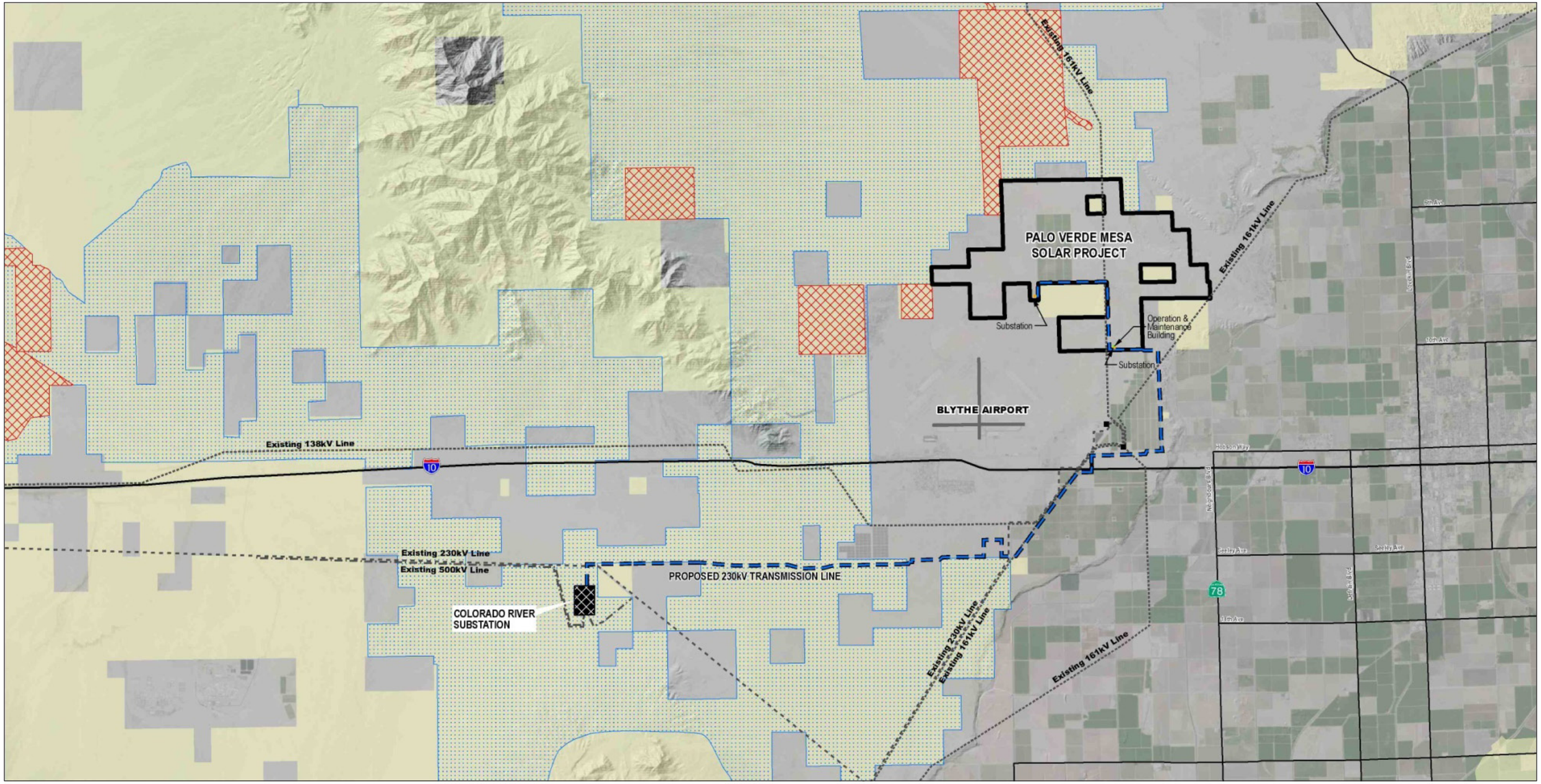
1:63,360

SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 2-1

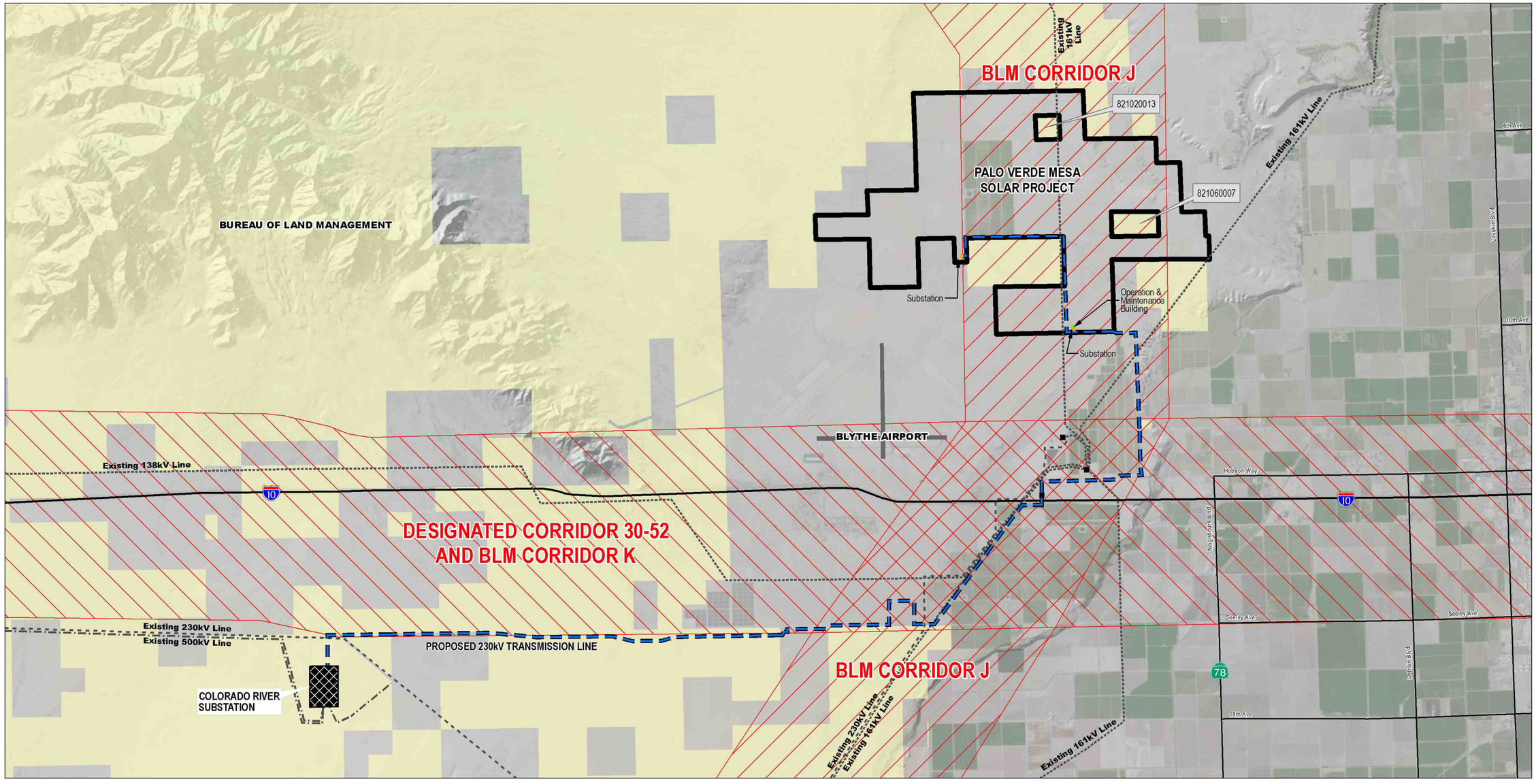
Existing and Planned Electrical Facilities



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 2-2
Solar Energy Zones



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 2-3

BLM Designated Utility Corridors

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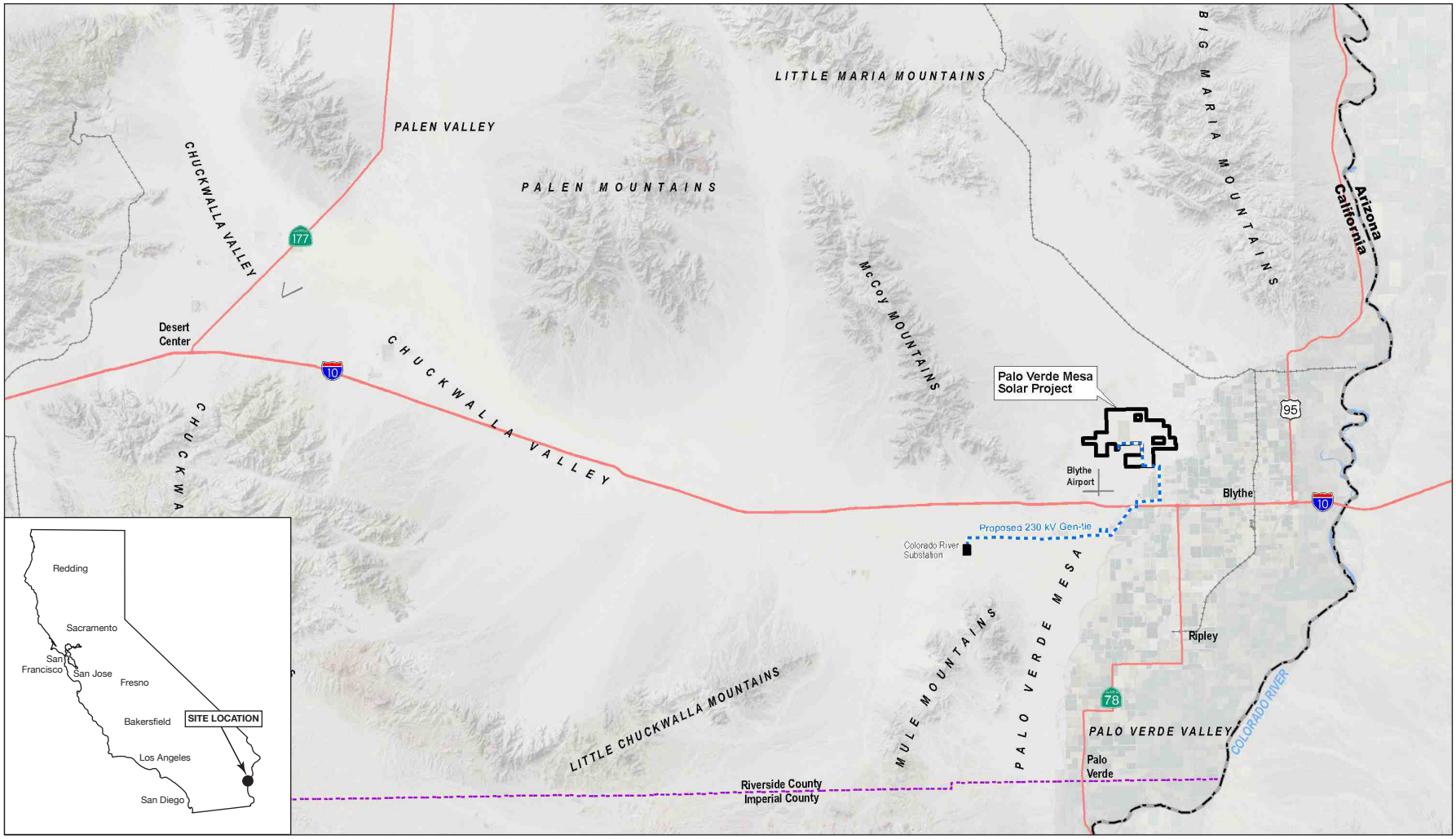

SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 2-4
Regional Area

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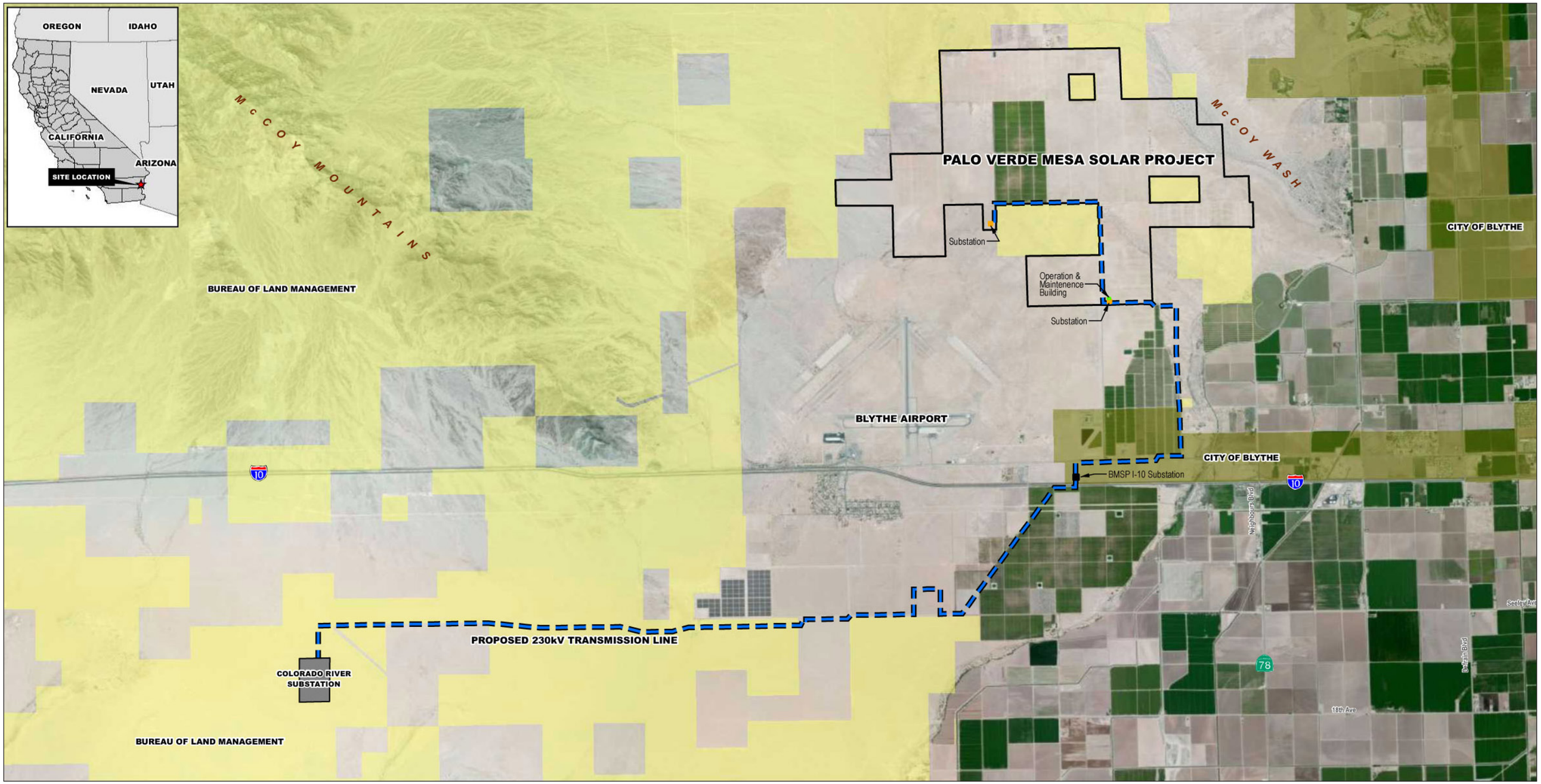

SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 2-5
Project Area

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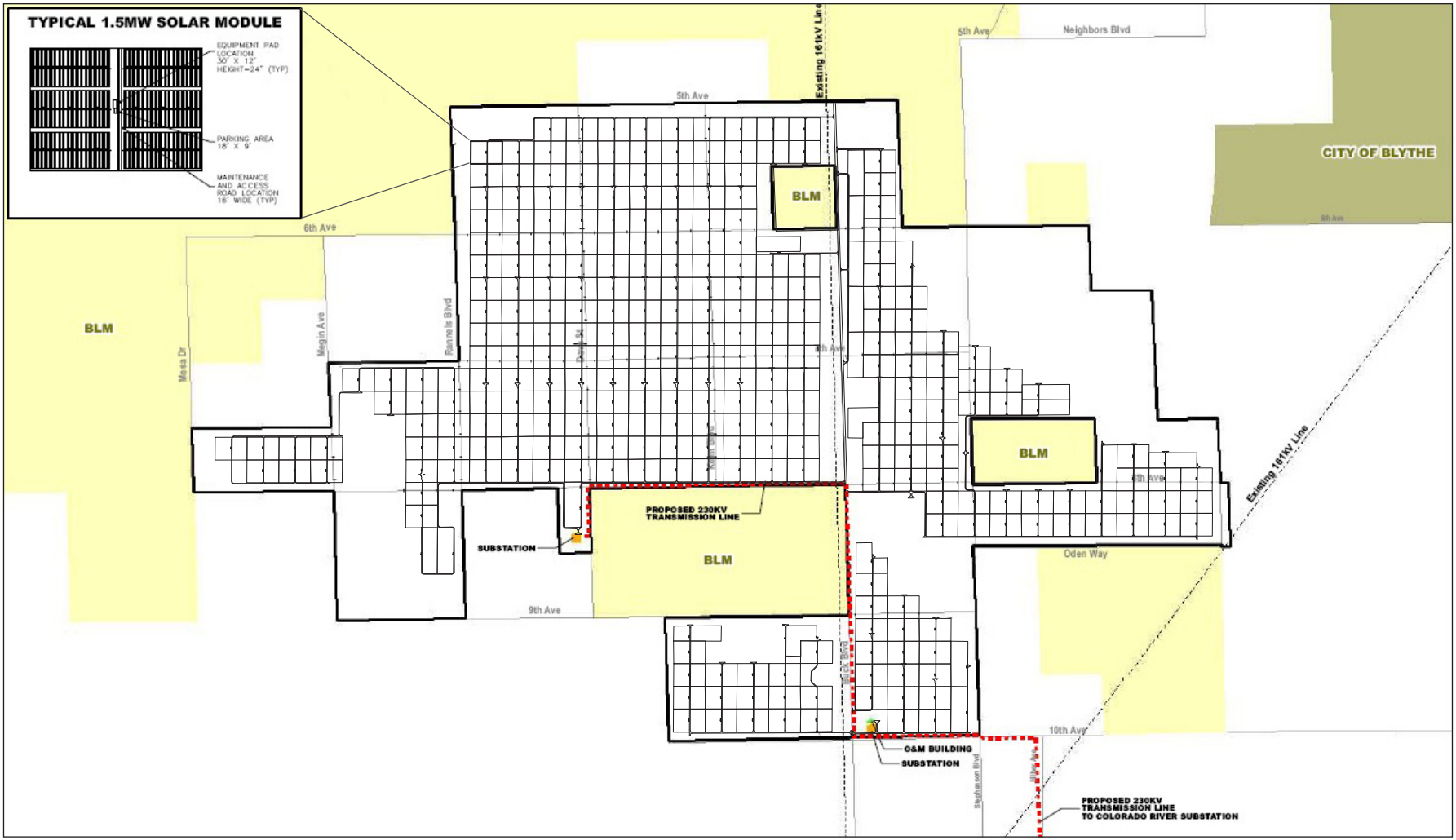
2.3.2 Project Components

The proposed 450 MW PV electrical generating facility and 14.5-mile gen-tie line would occupy approximately 3,400 acres. The proposed Project would consist of the following major components (see **Figure 2-6**):

- **Solar Facility (3,250 total acres, private land)**
  - Solar array field that utilizes single-axis solar PV trackers (295 feet long and 140 feet wide). Six trackers with 18 north-south oriented rows of PV panels would be configured into blocks (660 feet long by 450 feet wide).
  - Inverters (5.0 feet wide and 10.5 feet tall) mounted on small concrete pads (minimum 0.5 foot above grade).
  - System of underground interior collection power lines located between inverters and substations.
  - Two on-site substations (each approximately 300 feet long by 300 feet wide).
  - One operation and maintenance (O&M) building (approximately 3,500 square feet).
  - Several interior access roads.
- **New 230 kV Gen-tie Line[2] (approximately 14.5 miles)**
  - Approximately 2.7 miles would be located within the solar facility.
  - Approximately 11.8 miles would extend outside of the solar facility and would be placed within a 100-foot-wide right-of-way (ROW) and occupy 143.1 acres.

Within the PVMSP solar facility site, the gen-tie line would extend a distance of approximately 2.7 miles on-site. The gen-tie line would extend off-site another 11.8 miles from the PVMSP solar facility site to CRS within a 100-foot-wide ROW. This 100-foot-wide ROW would traverse 6.1 miles (73.8 acres) of County of Riverside jurisdiction, 1.7 miles (21.0 acres) of City of Blythe jurisdiction, and 4 miles of BLM-managed lands (48.2 acres) for a total ROW area of 143 acres. See **Table 2-1** for a summary of jurisdictional crossings.

[2] This EIR studies the entire 14.5-mile transmission line as part of the PVMSP; however, the BMSP includes double-circuit 230 kV transmission line poles, which are anticipated for use of the proposed Project. The BMSP EIR/Environmental Assessment (EA) was certified by the County Board of Supervisors in March 2015 and a Finding of No Significant Impact (FONSI) and Decision Record were issued by the BLM in August 2015. See the 230 kV Gen-tie Lines subsection for a detailed description of the gen-tie line. Use of the BMSP gen-tie line has been fully analyzed in the BMSP EIR/EA. However, to ensure that the whole of the PVMSP is analyzed, this EIR evaluates the impacts of constructing new gen-tie line poles, as if a vacant position on the double-circuit poles is not available.



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 2-6
Site Plan

TABLE 2-1
230 KV GEN-TIE LINE JURISDICTIONAL CROSSINGS

Jurisdiction	Length (miles)	ROW Acreage
County within solar facility site	2.7	n/a
County outside of solar facility site	6.1	73.8
BLM	4.0	48.2
City of Blythe	1.7	21.0
TOTAL	**14.5 miles**	**143 acres**

SOURCE: POWER

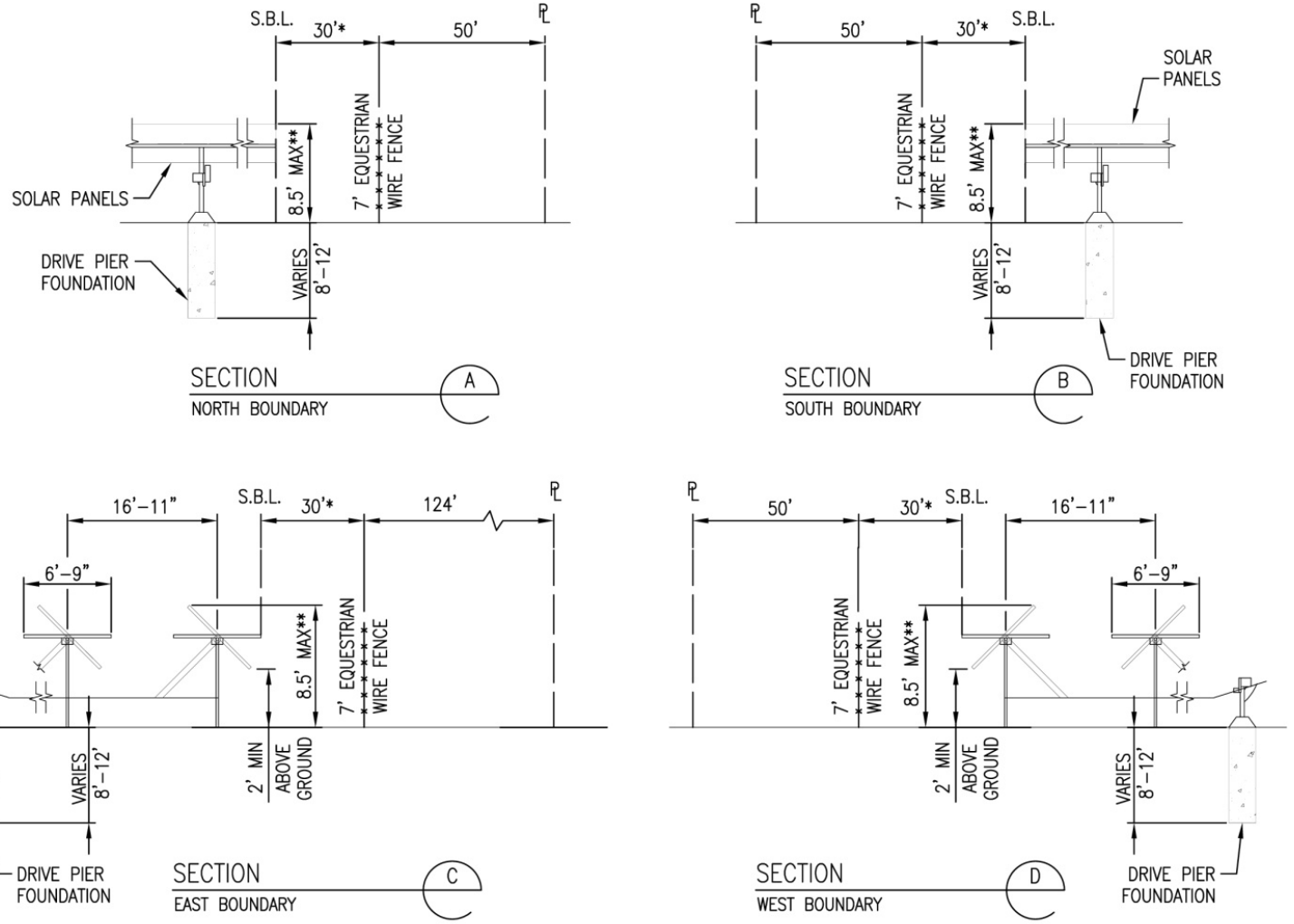
2.3.3 Project Facilities

Solar Array Field

The PVMSP would utilize single-axis PV trackers with silicon solar panels. All panels would be oriented in the same direction as they track the sun's movement. By design, the PV panels absorb sunlight to maximize electrical output and use anti-reflective glass, resulting in about half the reflectance of standard residential and commercial glass. Due to limited rotation angles, the solar panels have no potential for reflecting the sun's rays upon any ground-plane position.

The panels would be configured into trackers (**Figure 2-7**), and the trackers configured into 1.5 MW blocks approximately 660 feet wide and 470 feet long (**Figure 2-8**). Each tracker (295 feet long and 140 feet wide) has 18 north-south oriented rows of PV panels. The panels would be supported by micro-piles (15 to 20 feet long and 4.5-inch outer diameter), which would be driven directly into the ground by a tracked backhoe to a depth of 8 to 12 feet using a vibration technology to reduce noise impacts; no blasting or rock-breaking is anticipated. Small truck-mounted cranes or grade-all forklifts would place trackers onto micro-piles. Within each tracker, the rows of PV panels would be linked by a steel drive strut (295 feet long), which would be oriented perpendicular to the axis of rotation. Each row would be connected to the drive strut by a torque arm, which acts as a lever, enabling the drive strut to rotate the rows in unison.

The trackers would rotate up to 45 degrees from east to west to track the daily motion of the sun. The trackers' center of rotation being approximately four to eight feet above grade with a maximum height of 8.5 feet when panels are fully rotated. Solar panels at an upright position would have a minimum clearance of 24 inches above the highest adjacent ground. For areas within the 100-year floodplain (*see Section 3.9* and *Figure 3.9-3*), the solar panels at the upright position would be a minimum of one foot above the 100 year floodplain water levels. A small 0.5-horsepower electric drive motor would move the drive strut back and forth and is typically mounted in the center of a block. The drive motor would be placed on a concrete foundation that is approximately 2.5 feet in diameter and 1.5 feet above ground level. In areas within the flood plain delineation, the drive motor foundations would be a minimum of six inches above the 100 year floodplain water levels. Torque tubes act as the horizontal support for the PV panels.

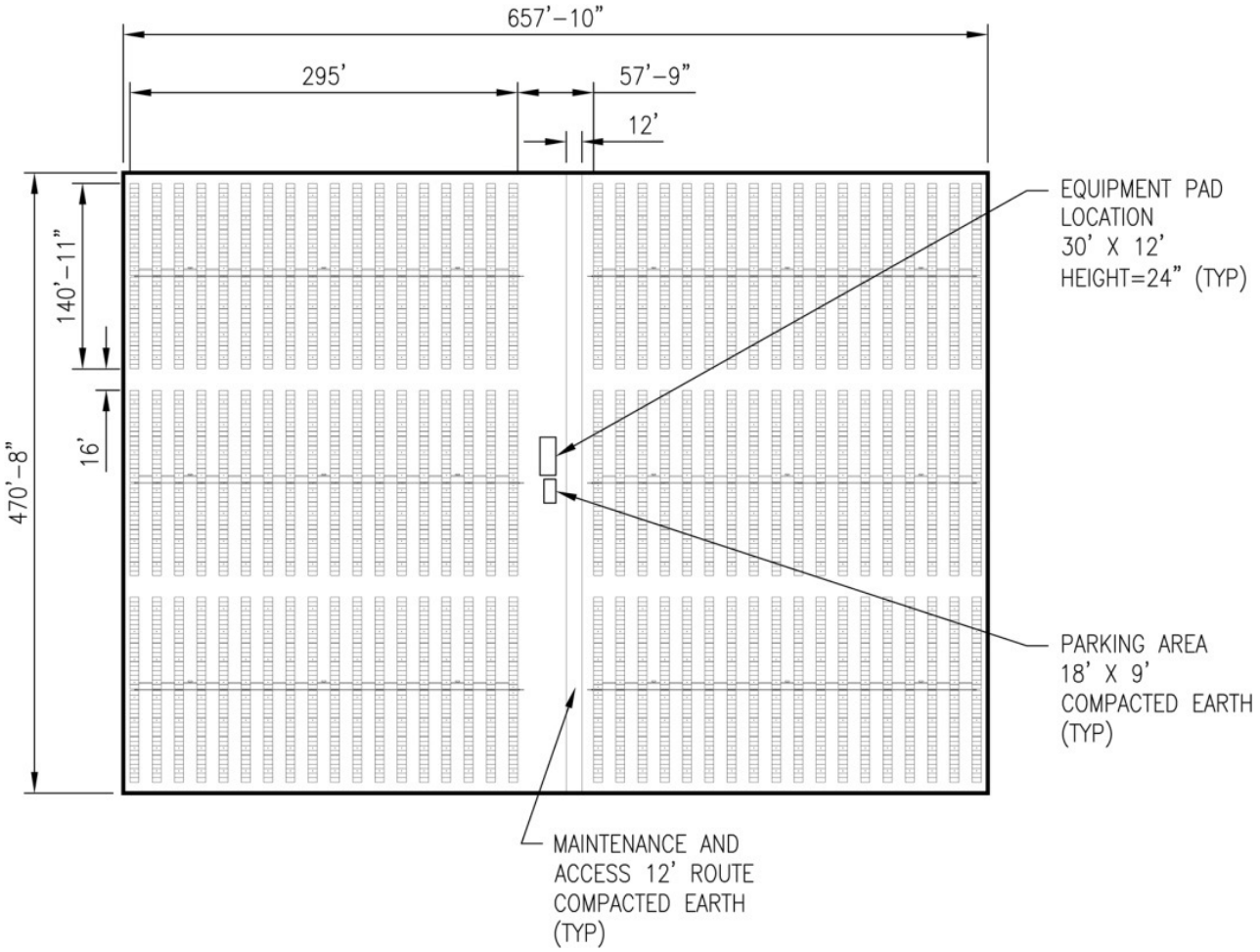


NOTES:

* 30' SETBACK TYPICAL FROM FENCE TO PANELS, O&M BUILDING, SUBSTATION, ETC.
** MAX HEIGHT FROM GROUND TO TOP OF PANEL AT 45° TILT

SOURCE: POWER Engineers

Figure 2-7
Tracker Specifications



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 2-8

1.5 MW Solar Array Block

Combiners, Inverters, and Transformers

Individual PV panels would be connected together in series to create a "string" to carry direct current (DC) electricity. Multiple DC strings would be brought together into an above-ground combiner box to merge the strings into a single high-current cable and provide overcurrent[3] protection. From the combiner boxes, the cabling would run in raceways and underground to inverters (5.0 feet wide and 10.5 feet tall) mounted on small concrete pads (minimum 0.5 foot above grade) distributed across the site. Installation of the electrical collection system would require excavations to a depth of approximately three feet for underground electrical circuits. The inverters would take the DC output from the combiner boxes and convert it to alternating current (AC) electricity. **Figure 2-9** illustrates the equipment pad that would contain the combiner, inverter, and transformer. **Figure 2-10** illustrates the process of moving electricity from PV panels to the proposed Project substation.

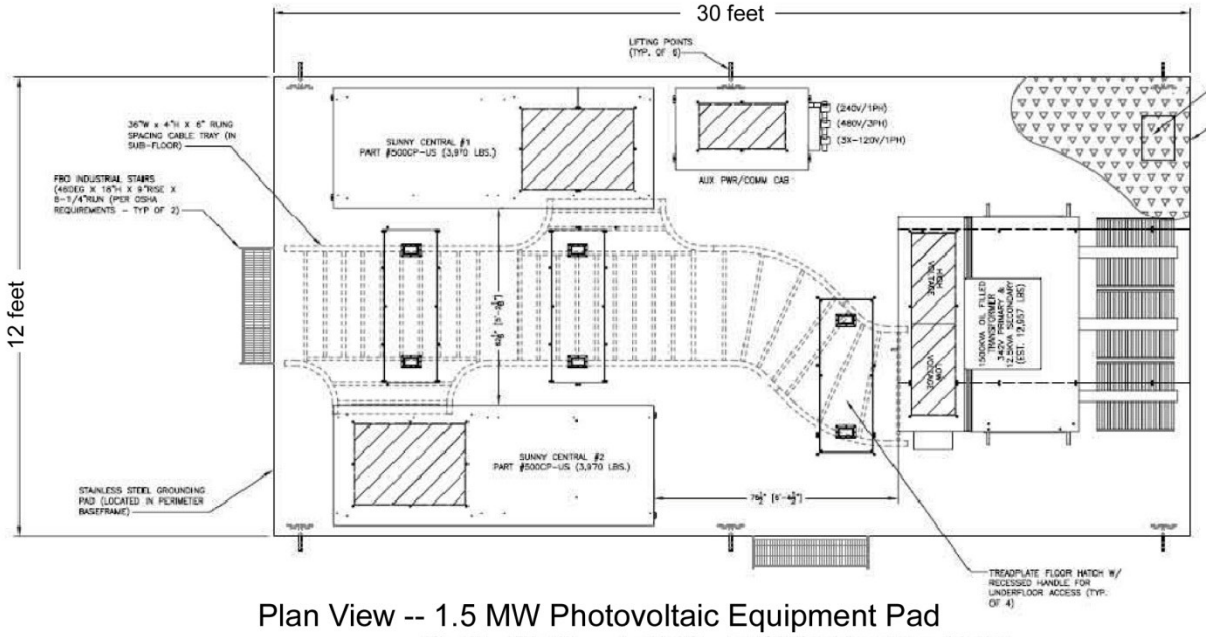
Medium Voltage (34.5 kV) Collector Lines

The AC electricity would be increased to medium voltage (34.5 kV) using a standard "step-up" transformer. The medium-voltage collection lines would begin at the inverter/transformer pads and would be located in trenches about three feet deep and daisy chain between the inverter-transformers until the output from 10 to 15 blocks is gathered and transferred underground to the local on-site substation. The medium-voltage collection circuits would carry 20 to 30 MW of electricity to an above-ground breaker within the PVMSP substation site. The substation would combine all 34.5 kV cables from the inverter-transformers and would transform that power into a 230 kV output.

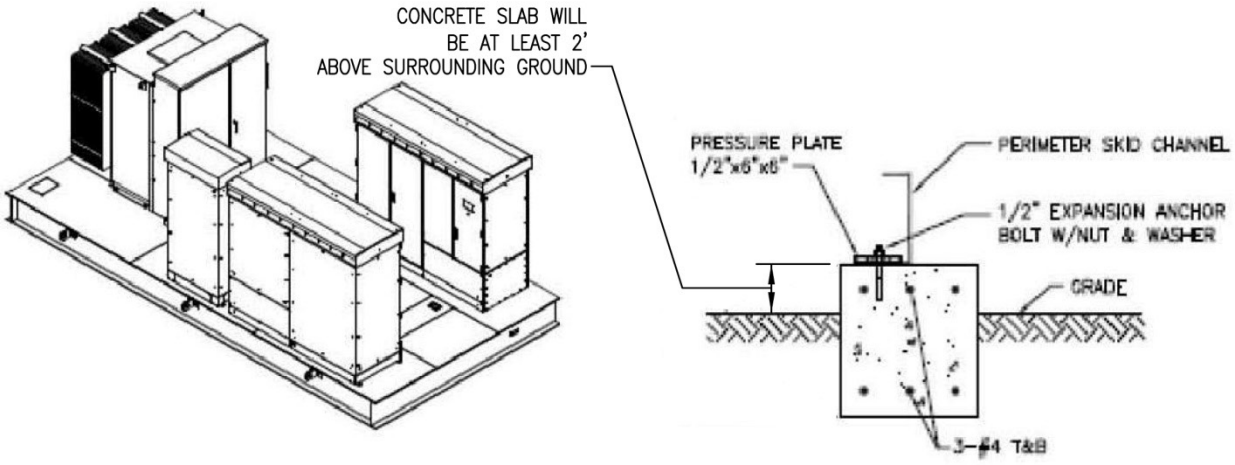
Substation and Switchgear Pads

The two on-site substations (each 300 feet long by 300 feet wide) would collect all the medium-voltage circuits and step up the voltage to 230 kV. The internal arrangement for the substations would include a 34.5 kV switchrack, a 230 kV switchrack, a 34.5 kV / 230 kV transformer yard, and a control building (see **Figure 2-11**).

[3] A condition in an electrical circuit when the current (amperage) in the circuit exceeds the rated amperage capacity of that circuit or of the connected equipment on that circuit.



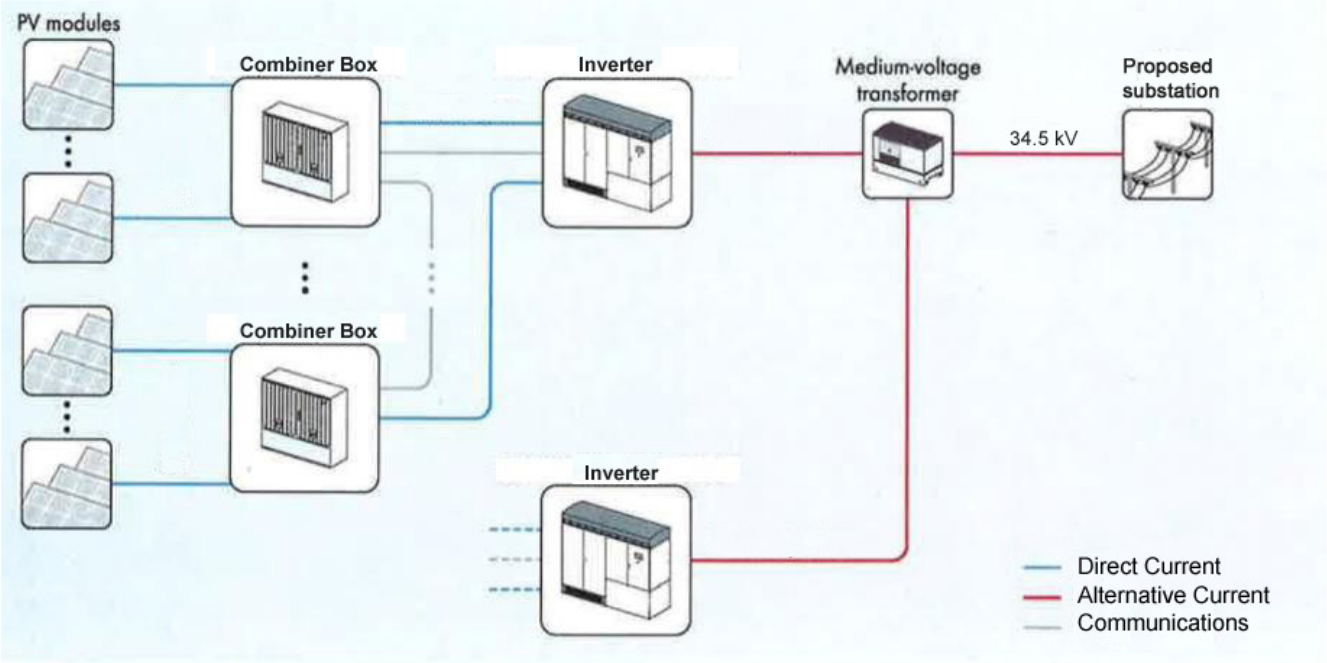
Plan View -- 1.5 MW Photovoltaic Equipment Pad



INVERTER/TRANSFORMER EQUIPMENT PAD

SOURCE: POWER Engineers

Figure 2-9
Inverter/Transformer Equipment Pad

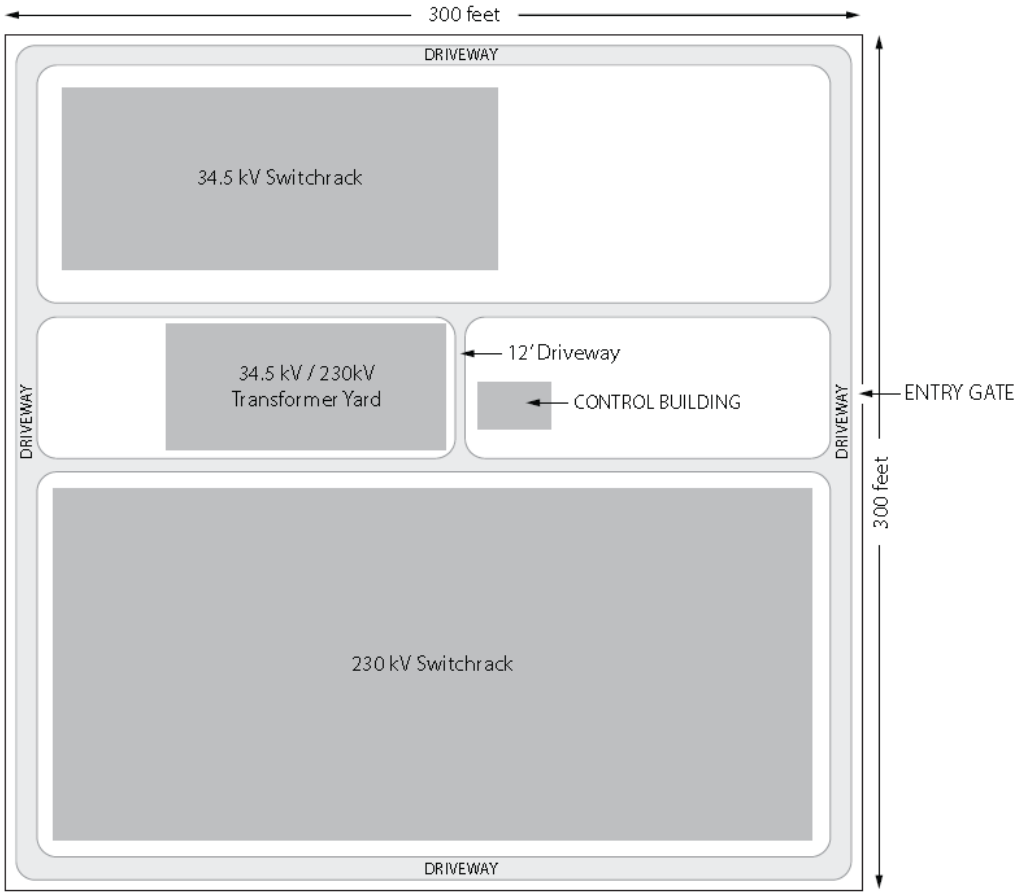


SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 2-10

PV Panels to Proposed Substation



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 2-11

Internal Substation Arrangement

230 kV Gen-tie Lines

The applicant proposes to construct a 14.5-mile-long, 230 kV overhead gen-tie line from the PVMSP's northwestern substation to the CRS. Structure heights and corresponding span lengths would meet Federal Aviation Administration (FAA) requirements for the nearby Blythe Airport. The transmission line facilities would include single-circuit tubular steel poles that are 77 to 120 feet tall with an average distance between poles (span length) of 700 to 800 feet (*see Figure 2-12*). The suspension poles would typically be four to six feet in diameter. At angle or dead-end points along the gen-tie path, larger diameter poles would be required that would be approximately six to ten feet in diameter. Concrete foundations, if used, would typically extend one foot laterally beyond the base of the poles, adding up to two feet to the overall diameter of the permanent footprint of each pole location. The poles would be directly embedded into the soil or set in concrete foundations approximately 20 to 30 feet deep. The proposed Project would utilize existing access roads where the proposed 230 kV gen-tie line would parallel existing transmission lines. In areas where construction of new access roads are required, the proposed Project would construct 16- to 20-foot-wide access roads to each structure, covered with 8 inches of gravel over compacted sub-grade, and located within the proposed 100-foot gen-tie ROW.

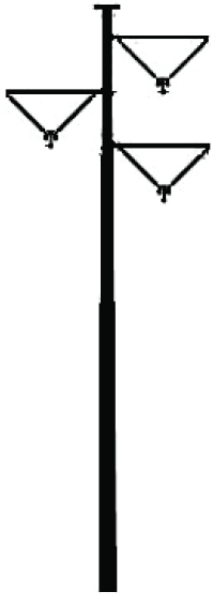
Shared Gen-tie facilities with Blythe Mesa Solar Project

If available, the PVMSP would utilize a vacant circuit position on the BMSP's double-circuit 230 kV transmission line poles. Instead of constructing 14.5 miles of new gen-tie line poles, the PVMSP would string 8.9 miles of the new 230 kV circuit onto the vacant position of the BMSP's double-circuit poles from the PVMSP's northernmost substation to the BMSP's I-10 Substation. In this scenario, only 5.6 miles of single-circuit poles would be constructed. The double-circuit poles would be 85 to 125 feet tall with a 500- to 800-foot pole-to-pole span (see **Figure 2-12** and **Table 2-2**). The addition of a new 230 kV circuit onto existing towers would require many of the same construction activities associated with a new transmission line (clearing of right-of-way and tower sites, conductor installation, and pulling and tensioning of conductor); however, all work would be within the existing ROW and no new towers or access roads would be constructed for this portion of the gen-tie line.

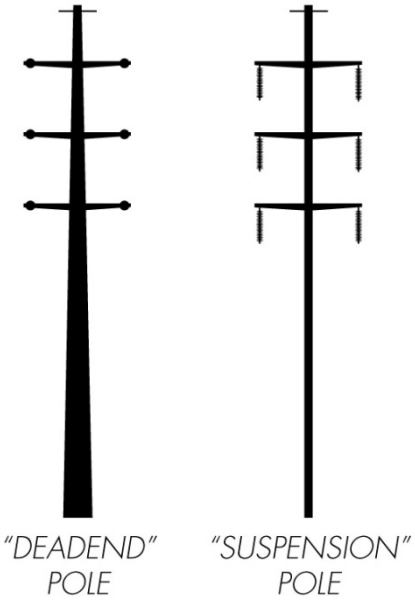
TABLE 2-2
AVERAGE HEIGHT AND SPAN OF GEN-TIE LINE POLES

Structure Type	Average Height	Average Pole-to-Pole Span
Single-Circuit 230 kV	77 to 120 feet tall	700 to 800 foot span
Double-Circuit 230 kV	85 to 125 feet tall	500 to 800 foot span

SOURCE: POWER



Single-circuit Towers



Double-circuit Towers

SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 2-12
Gen-Tie Line Poles

Operation and Maintenance Buildings

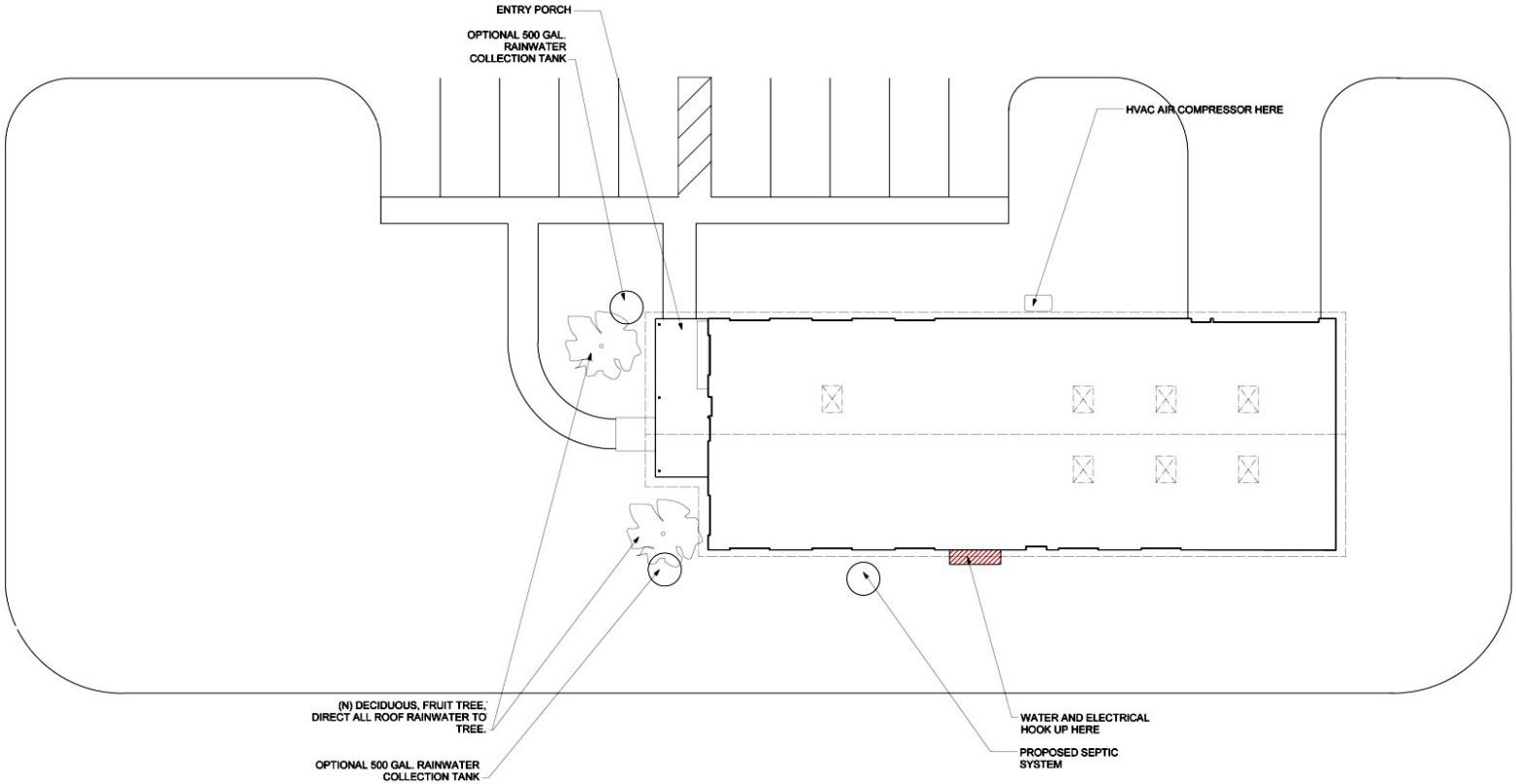
One O&M building (approximately 3,500 square feet, enclosed, and no more than 30 feet tall) would provide work space for maintenance staff and storage space for operational equipment and parts. The physical locations of the buildings are shown in *Figure 2-6 (Site Plan).* The layout and elevations are illustrated in **Figures 2-13** and **2-14**. The buildings would be constructed with the finished floor a minimum of 24-inches above the highest adjacent ground. The building would include bathroom facilities serviced by a private septic system and would be designated occupancy Classification U. A covered outdoor temporary assembly and storage area (80,000 square feet, 25 feet tall) would be directly adjacent to the O&M building.

Access Roads

The primary access gate to the solar facility site would be located in proximity to the intersection of Buck Boulevard and 10th Avenue. The secondary access gate to the solar facility site would be located in proximity to the intersection of Stephenson Boulevard and 10th Avenue. **Figure 2-15** illustrates the proposed access roads to the solar facility site from the I-10 freeway, as well as interior dirt access roads within the solar facility site, which would be 12 feet wide and constructed approximately every 200 to 400 feet to allow access to and maintenance of the solar panels. Areas with proposed solar panels would be fenced in and the Applicant would enter into a franchise agreement with the County of Riverside and obtain such other approvals as are necessary to close existing dirt access roads, which include portions of Megin Avenue, Rannels Boulevard, Dave Street, Keim Boulevard, 7th Avenue, and 8th Avenue. Access along Buck Boulevard would remain open.

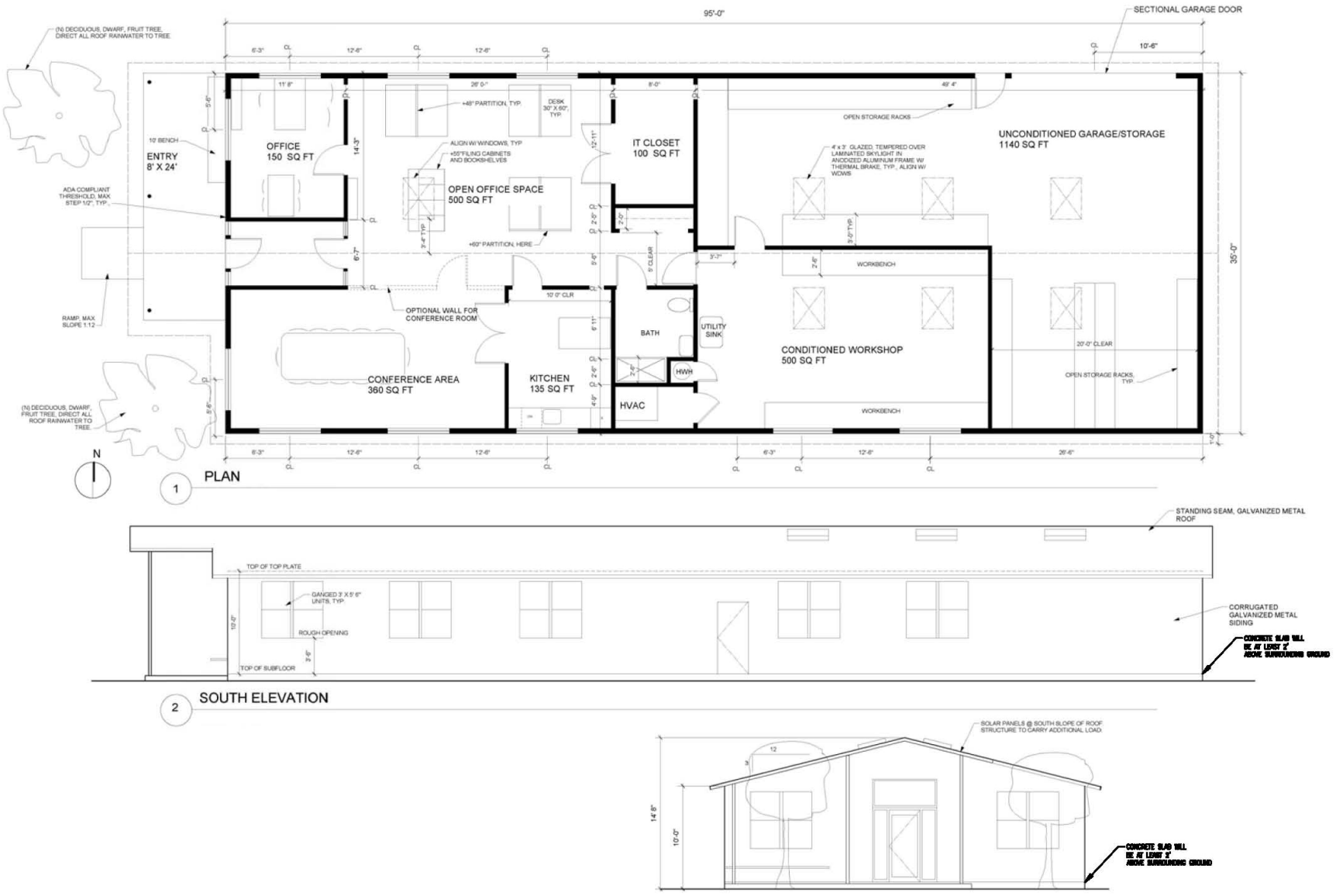
Other Infrastructure

The solar facility would be enclosed with fencing that meets National Electric and Safety Code (NESC) requirements for protective arrangements in electric supply stations. An example of acceptable fencing would be a seven-foot-tall, equestrian-type wire fence along the perimeter; fence posts set into the ground would have approximately 8- to 10- foot spacing, with approximately six strands of smooth wire at about one-foot vertical spacing (see **Figure 2-16**, *Typical Fence Detail*). Site fencing will also adhere to US Fish and Wildlife Service (USFWS) design guidelines (USFWS, 2009) to exclude desert tortoise from the Project site. The fence would typically be set 30 feet from the edge of the array.



SOURCE: Leger Wanaselja Architecture

Figure 2-13
O&M Building Plan

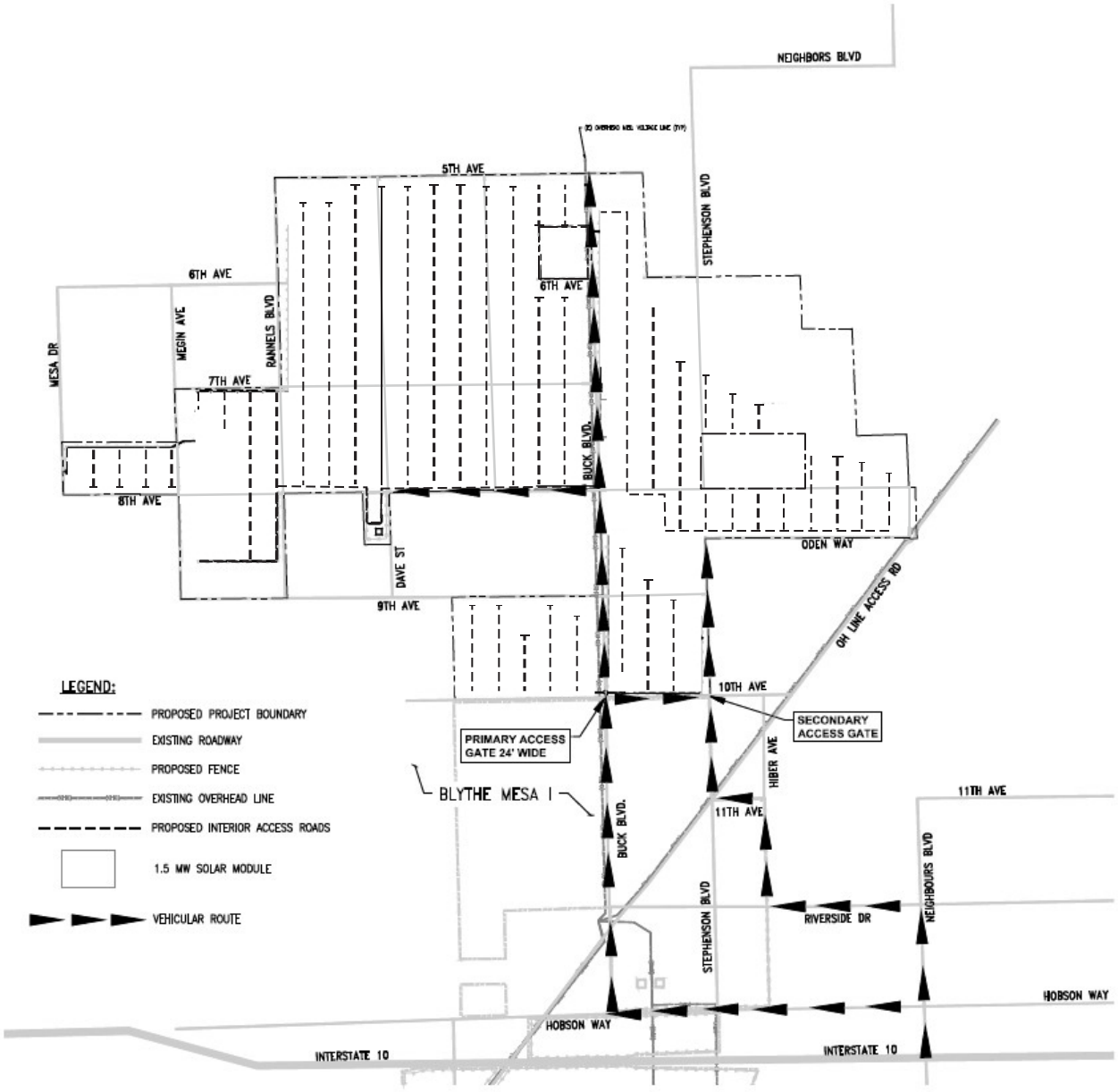


SOURCE: Leger Wanaselja Architecture

Palo Verde Mesa Solar Project . 150379

Figure 2-14

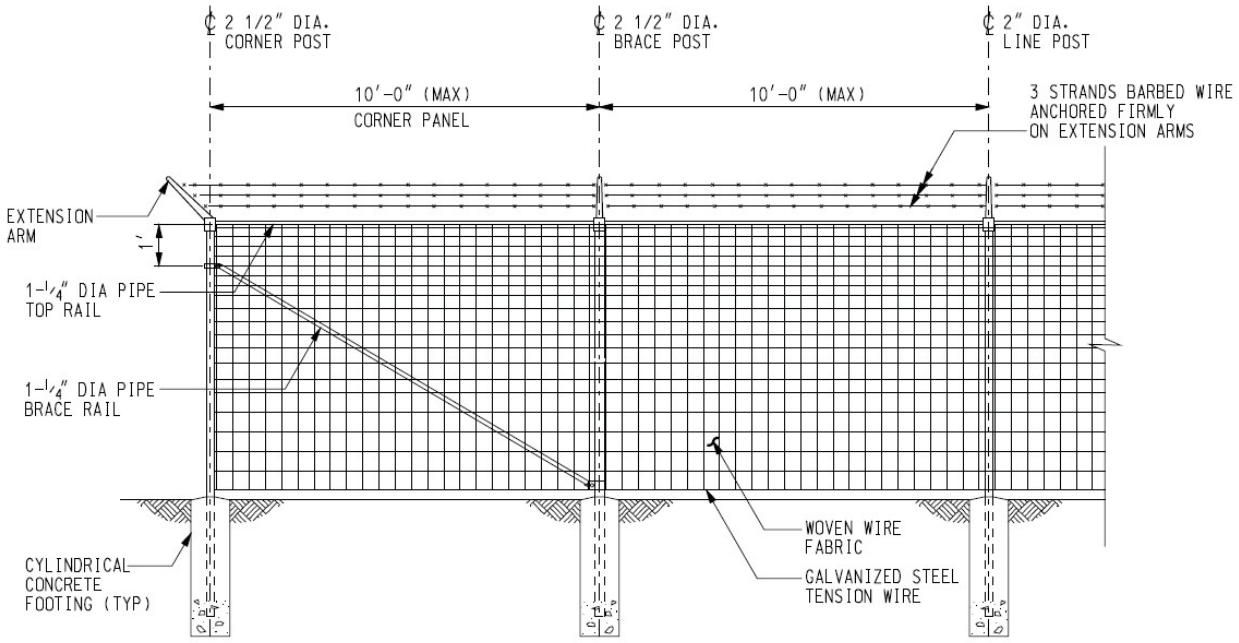
O&M Layout and Elevation



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 2-15
Access Roads



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 2-16

Typical Fence Detail

2.3.4 Construction

Construction is anticipated to occur over a three-year period with construction activities occurring simultaneously; peak construction would occur over 24 months. The solar array field would be developed in six-month phases, with six blocks constructed at a time (each block 100 acres, for a total of 600 acres at a time). Construction of the substations, gen-tie line, switchyard, and O&M buildings would occur as the arrays are being assembled. The timing and workforce used for each construction activity/phase is illustrated in **Table 2-3**. After the common facilities (e.g., substations, switchyards, O&M buildings) are completed in the earlier stages, the workforce would be devoted more to array construction in the later stages.

TABLE 2-3
DURATION AND NUMBER OF WORKERS OF EACH CONSTRUCTION PHASE*

Construction Activity/Phase	Duration	Workers
Site Preparation/Clearing/Grading	6 months	20
Staging & Assembly Areas (including access roads)	6 months	20
Construction of Solar Array, Substations, O&M Buildings	24 months	200-500
Installation of 230 kV Gen-tie Line & Fiber Optic Cable	12 months	30
Testing	3 months	20
Clean up/restoration	1 month	20

*Construction would occur over a three-year period with construction activities occurring simultaneously.

Approximately 300-500 daily workers would be present on-site during peak construction. Worker construction traffic would consist of approximately 250-400 daily vehicle roundtrips (300 employees would travel alone, and 200 employees would carpool). It is anticipated that most workers would be drawn from the Blythe/Palo Verde Valley region and the Desert Center region, with a smaller portion drawn from the Imperial Valley or Eastern Riverside County region. Anticipated average daily material deliveries would consist of about 20 truck deliveries per day for 24 months. Workers and delivery trucks would access the site using the Neighbors Blvd. off-ramp from I-10 with primary access from Buck Road and secondary access from Stephenson Boulevard (see Figure 2-15, *Access Roads*). Typical on-site work hours would be from 7:00 a.m. to 6:00 p.m. During the installation period, construction workers are projected to be on site five days per week, year-round. Due to weather or other major-type delays, times may shift to start as early as 5:00 a.m. and end as late as 8:00 p.m., as well as continue into the weekends. However, in compliance with Riverside County Noise Ordinance 847, construction within 0.25-mile from a residence would be prohibited during non-typical work hours. Security would be on site 24 hours per day.

During construction, a variety of equipment and vehicles would be operating on the site. **Table 2-4** provides a list of the types of equipment and vehicles expected to be involved in each construction phase.

TABLE 2-4
CONSTRUCTION EQUIPMENT BY CONSTRUCTION PHASE

	Construction Phases					
Equipment	**Site Preparation**	**Construction of Solar Array**	**Installation of Gen-tie Line Poles**	**Fiber Optic Cable**	**Substation & O&M Building**	**Clean up & Restoration**
Backhoe		X	X		X	
Cranes		X	X	X	X	
Vibratory Post Drivers		X				
Fork Lifts	X	X	X	X	X	
Dozers	X				X	
Excavator	X				X	
Grader	X				X	X
Loaders, Rubber-Tired	X	X	X	X		
Rollers	X				X	
Scrapers	X					
Trenchers		X				
Dump Truck	X	X				
Water Truck	X	X			X	
Concrete Truck	X	X	X			
Flatbed Truck		X	X	X	X	
Light-weight Truck	X	X	X	X	X	
ATV Gator Carts	X	X			X	

Site Preparation

Since most of the site has nearly level to gently sloping topography, no mass grading would be required. Some of the parcels where facilities and arrays would be located would require light grubbing for leveling and trenching. Access roads would require minimal grading. After grubbing and light grading, construction of staging areas would occur. On-site pre-assembly of trackers would take place in the assembly area.

The PV system proposed for the site can operate on slopes up to nine percent in all directions. Fine grading would only be required for the development of site access. During construction, it is anticipated that a total of approximately 1,500 acre-feet (AF) of water (500 AF per year) would be utilized for soil moisture conditioning and dust control. The water would be purchased from Palo Verde Irrigation District.

Installation of the electrical collection system would require excavations to a depth of about three feet for underground electrical circuits, inverter and switchgear enclosure foundations, and transformer foundations. The O&M building foundations would also be excavated to a depth of about three feet.

Construction Activities

The PVMSP would be constructed over a three-year period in the following phases, which would occur simultaneously on different portions of the site:

- Development of staging and assembly areas, and grading of site access roads.
- Construction of arrays including pile installation, assembly of trackers, mounting of PV panels, pile-driving of support piles, placement of trackers on support piles, and trenching and installation of electrical equipment for arrays.
- Construction of electrical transmission facilities including two substations, the 230 kV gen-tie line, and one O&M building.

Staging Areas, Assembly Areas, and Access Roads

Construction staging and material lay-down would be distributed across the solar facility evenly to allow for efficient distribution of components to different parts of the PVMSP. One staging and material lay-down area would typically be set up for every 100 acres of the PVMSP site. These lay-down areas would be temporarily fenced and would cover approximately five acres each. Lay-down areas would be temporary and would be converted to solar arrays as work is completed in the general area. Within the solar facility site, 12-foot-wide access roads would also be constructed approximately every 200 to 400 feet to allow access to and maintenance of the solar panels.

Array Assembly

Tracker assembly may include up to 25 small gas-powered generators to power welding machines to assemble trackers and construct tracker arrays. The micro-pile supports would be driven into the ground to a depth of eight to twelve feet using a vibration technology to reduce noise impacts. Torque tubes, electrical wire trays, and panels would then be installed on the piles. Concrete foundations for the drive motors would be poured in place, and electrical equipment for the array would be set in place. A tracked backhoe would drive piles. No blasting or rock breaking is anticipated or proposed. Small truck-mounted cranes or grade-all forklifts would place trackers on support tiles. Tracker installation would include small all-terrain vehicles to transport materials and workers on access roads and array aisles.

Substations

Construction of the substations would involve site preparation, clearing of the switchrack sites, and installation of substructures and electrical equipment. Each site would first be cleared and graded, and then security-fenced for the duration of substation construction. Underground Service Alert would be contacted to mark the locations of existing buried utilities in the vicinity. Substation materials and equipment would be delivered to, and stored at, the substation site, as required, during construction. The sites would be graded to maintain current drainage patterns to the maximum extent possible.

Each substation would be constructed with conventional grading and construction equipment. Grading would establish the desired site grade, and minor excavation would provide concrete

footings for the substation equipment. The substation sites would be graveled with crushed rock for grounding and employee safety purposes.

O&M Buildings

The O&M building areas would be surveyed and staked. A concrete slab would be poured to the dimensions of each building. The prefabricated steel building structures would then be assembled. The exterior finish would be constructed as the mechanical and electrical systems are built inside. Interior finishing would follow, and final fixtures and equipment would be installed.

Gen-tie Line

The gen-tie line would be constructed with crews working continuously along the route. Several construction crews may operate simultaneously at different locations along the gen-tie line. Construction would last approximately one week at each pole location. First, construction staging areas would be prepared for acceptance of trailers, office personnel, equipment, material staging, lay-down, and employee parking. Second, the gen-tie line route would be surveyed and site delineation staked. Third, access roads to the structure locations would be constructed. Fourth, pole locations would be cleared and poles installed. Fifth, the conductor would be installed. Sixth, the overhead ground/fiber optic communications systems would be installed. Finally, the site would be cleaned up and reclaimed.

2.3.5 Operation

Operation and Maintenance Activities

After the construction phase, the O&M building would serve the PVMSP's approximately 12 permanent full-time employees, which would include one plant manager, five engineers/technicians, and six security staff. Project facilities would be monitored during operating (daylight) hours, even though the Project facilities would be capable of automatic start up, shutdown, self-diagnosis, and fault detection.

The PVMSP would require the use of a water supply to maintain the facility. The solar panels may be cleaned up to two times per year, if necessary to optimize output. Water would also be used to provide fire protection, maintain vegetation, and serve the O&M building. No chemicals would be used during cleaning of the solar panels. It is estimated that maintenance water requirements would be approximately 302 AF/year. The PVMSP would coordinate with Gila Farm Land, LLC (landowner) and Palo Verde Irrigation District to secure non-potable water service and supply from Palo Verde Irrigation District during operation. Potable water would be supplied by County Service Area #22.

Dust would be controlled during operations by the periodic application and maintenance of soil binders to exposed soil surfaces. Vegetation growing on the PVMSP site would be periodically removed manually and/or treated with herbicides.

No heavy equipment would be used during normal operation. O&M vehicles would include trucks (pickup and flatbed), forklifts, and loaders for routine and unscheduled maintenance and

water trucks for solar panel washing. Large heavy-haul transport equipment may be brought to the solar facility infrequently for equipment repair or replacement.

Long-term maintenance schedules would be developed to arrange periodic maintenance and equipment replacement in accordance with manufacturer recommendations. Solar panels are warranted for 25 years or longer and are expected to have a life of 30 or more years, with a degradation rate of 0.5 percent per year. Moving parts, such as motors and tracking module drive equipment, motorized circuit breakers and disconnects, and inverter ventilation equipment, would be serviced on a regular basis, and unscheduled maintenance would be performed as necessary.

Site Security

No nighttime activities are anticipated during operation of the PVMSP; however, the solar facility would be secured 24 hours per day by on-site private security personnel and remote security services with motion-detection cameras. As previously described, the solar facility would also be enclosed with fencing that meets NESC requirements for protective arrangements in electric supply stations.

Fire Safety

Solar arrays and PV modules are fire-resistant, as they are constructed largely out of steel, glass, aluminum, or components housed within steel enclosures. As the tops and sides of the panels are constructed from glass and aluminum, 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. During construction, standard defensible space requirements would be maintained surrounding any welding or digging operations. Fire safety and suppression measures, such as smoke detectors and extinguishers, would be installed and available at the O&M facility, per the Riverside County Building and Safety Department's requirements.

A Fire Management and Protection Plan will be prepared in coordination with the Riverside County Fire Department or other emergency response organizations to identify the fire hazards and response scenarios that may be involved with operating the solar facility. This would include information on response to accidents involving downed power lines or accidents involving damage to solar arrays and facilities.

Interconnection with Statewide Grid

Power produced by the PVMSP would be conveyed to the statewide electricity grid via a new 230 kV gen-tie line from the Project facilities to the CRS approximately seven miles west of the solar facility. The PVMSP has secured an interconnection queue position sufficient for the size of the Project at the CRS and has made the necessary reservation deposits to CAISO. The PVMSP must interconnect to the CRS independently from the BMSP, should a vacant pole position along the BMSP gen-tie line be available for use by the proposed Project.

2.3.6 Decommissioning and Repowering

At the end of the energy sales 25-year contract term, if the utility buyer is not available for extension or another energy buyer does not emerge, the solar arrays and gen-tie line could be decommissioned and dismantled. Accordingly, this EIR analyzes the impacts of potential decommissioning and dismantling. If the PVMSP continues to operate, the long-term operational impacts would be the same as those described above.

The proposed Project's useful operating life, with appropriate maintenance, repair, and component replacement, is expected to be 30 years; therefore, the Applicant is seeking a CUP limited to a 30-year term. At the end of the 30-year operational period of the proposed Project, the PVMSP components would be decommissioned and deconstructed. It is expected that many components will be suitable for recycling or reuse, and Project decommissioning would be designed to optimize such salvage as circumstances allow and in compliance with all local, State, and federal laws and regulations as they exist at the time of decommissioning. Following removal of all of the above-ground and buried Project components, the site would be restored to its pre-solar facility conditions through redistribution, balancing, and conditioning of soils.

Decommissioning activities would require similar equipment and workforce as construction, but would be less intense. The following activities would be involved:

- Dismantling and removal of all above-ground equipment (solar panels, track units, transformers, inverters, substations, O&M buildings, switchyard, etc.)
- Excavation and removal of all above-ground cables
- Removal of solar panel posts
- Removal of primary roads (aggregate-based)
- Break-up and removal of concrete pads and foundations
- Removal of septic system and leach field
- Removal of 34.5 kV distribution lines
- Dismantling of 230 kV gen-tie line
- Scarification of compacted areas

The panels could be sold into a secondary solar PV panel market. It is expected that a robust market for used PV panels will exist in the future because the panels can be used in various configurations and at various scales. Electricity demand is expected to continue to rise and electricity prices are projected to continue their steady increase. Demand for solar energy is rapidly accelerating and is expected to grow for decades to come.

The module's component materials lack toxic metals such as mercury, lead, cadmium telluride, or gallium, and the majority of the components of the solar installation are made of materials that can be readily recycled. If the panels can no longer be used in a solar array, the silicon can be recovered, the aluminum resold, and the glass recycled. Other components of the solar installation, such as the tracker structures and mechanical assemblies, can be recycled, as they are

made from galvanized steel. Equipment such as drive controllers, inverters, transformers, and switchgear can be either reused or their components recycled. The equipment pads are made from concrete, which can be crushed and recycled. Underground conduit and wire can be removed by uncovering trenches and backfilling when done. The electrical wiring is made from copper and/or aluminum and can be reused or recycled, as well.

Following decommissioning and dismantling of the solar facility, the PVMSP site would be made available for reversion to agricultural use.

2.3.7 Best Management Practices

For the purposes of this EIR, the Best Management Practices (BMPs) listed in **Table 2-5** below would limit the environmental impacts associated with the proposed Project. BMPs are distinguished from mitigation measures in this EIR because BMPs are: 1) requirements of existing policies, practices, and measures required by law, regulation, or local policy; 2) ongoing, regularly occurring practices; and 3) general measures, not specific to the proposed Project and Alternatives, that may be applied to other projects. In other words, the BMPs identified in this EIR are inherently part of the proposed Project and are not additional mitigation measures proposed as a result of the CEQA significance findings. The BMPs listed are measures that would lessen environmental impacts and are referenced throughout Chapter 3 of this DEIR.

TABLE 2-5
BEST MANAGEMENT PRACTICES

BMP	Description
BMP-1	**Drainage, Erosion, and Sedimentation Control Plan**. As part of the County of Riverside's Conditional Use Permit (CUP) requirements, a Drainage, Erosion, and Sedimentation Control Plan would be developed for the Project. The project shall implement Site design and Source control BMPs according to County Standards. The plan would address the drainage, erosion, and sediment control requirements to support all activities associated with construction, operation, maintenance, and decommissioning of the Project. For example, any stockpiles created would be kept on site, with an upslope barrier in place to divert runoff. Stockpiles would be sprayed with water, covered with tarpaulins, and/or treated with appropriate dust suppressants, especially in preparation for high wind or storm conditions. Certified weed-free straw bale barriers would be installed to control sediment in runoff water; straw bale barriers would be installed only where sediment-laden water can pond, thus allowing the sediment to settle out. Topsoil from the site would be stripped, stockpiled, and stabilized before excavating earth for facility construction. Topsoil would be segregated and spread on freshly disturbed areas to reduce color contrast and aid rapid revegetation. The Drainage, Erosion, and Sedimentation Control Plan shall also include site design and source control BMPs that minimize the potential for erosion and off-site sedimentation.

TABLE 2-5
BEST MANAGEMENT PRACTICES

BMP	Description
BMP-2	**Stormwater Pollution Prevention Plan.** In compliance with requirements of the National Pollutant Discharge Elimination System (NPDES) permit, a Stormwater Pollution Prevention Plan (SWPPP) would be developed and prepared for the Project to ensure that protection of water quality and soil resources is consistent with County and State regulations. The plan would identify site surface water runoff patterns and include measures that prevent excessive and unnatural soil deposition and erosion throughout and downslope of the Project area and Project-related construction areas, and would also include measures for non-stormwater discharge and waste management. The SWPPP would cover all activities associated with the construction of the Project, including clearing, grading, and other ground disturbance such as stockpiling or excavation erosion control. The plan would prevent off-site migration of contaminated stormwater, changes in pre-Project storm hydrographs, or increased soil erosion.
BMP-3	**Fugitive Dust Abatement Plan.** As required by the Mojave Desert Air Quality Management District Rule 403, a Fugitive Dust Abatement Plan would be prepared to address fugitive dust emissions during Project construction, operation, maintenance, and decommissioning. The plan would include measures to minimize fugitive dust emissions from wrecking, excavation, grading, clearing of land, and solid waste disposal operations, and would take every reasonable precaution to prevent visible particulate matter from being deposited upon public roadways as a direct result of operations. During construction, all unpaved roads, disturbed areas (e.g., areas of scraping, excavation, backfilling, grading, and compacting), and loose materials generated during Project construction activities would be watered as frequently as necessary to minimize fugitive dust generation. However, the amount of water will be minimized each time to prevent temporarily ponding water that may occur as a result of the fugitive dust plan. In water-deprived locations, water spraying would be limited to active disturbance areas only, and non-water-based dust control measures would be implemented in areas with intermittent use or use that is not heavy, such as stockpiles or access roads. The dust suppression measures would consider the sensitivity of wildlife to the windborne dispersal of fugitive dust containing dust suppressants and the potential impact on future reclamation. The Dust Abatement Plan includes three specific measures (BMP 3.1 through BMP 3.3) as listed below: **BMP-3.1:** The following signage shall be erected not later than the commencement of construction. A minimum 48 inch high by 96 inch wide sign containing the following shall be located within 50 feet of each Project site entrance, meeting the specified minimum text height, black text on white background, on one inch A/C laminated plywood board, with the lower edge between six and seven feet above grade, with the contact name of a responsible

TABLE 2-5
BEST MANAGEMENT PRACTICES

BMP	Description

official for the site and a local or toll-free number that is accessible 24 hours per day:

"[Site Name] {four inch text}

[Project Name/Project Number] {four inch text}

IF YOU SEE DUST COMING FROM {four inch text}

THIS PROJECT CALL: {four inch text}

[Contact Name], PHONE NUMBER XXX-XXXX {six inch text}

If you do not receive a response, Please Call {three inch text}

The MDAQMD at 1-800-635-4617 {three inch text}"

BMP-3.2: For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization, durable polymeric soil stabilizers, or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from sand/fines deposits.

BMP-3.3: All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The owner/ operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule or project-specific biological mitigation prohibiting wind fencing.

BMP-4 **Fire Management and Protection Plan.** As required by existing law (Title 8 California Code of Regulations [CCR] Section 3221), a Fire Management and Protection Plan would be developed in consultation with the Riverside County Fire Department to identify potential hazards and accident scenarios that would exist at the facility during construction, operation, maintenance, and decommissioning of the Project. The Plan would include the identification of the following: potential fire hazards and ignition sources; proper handling and storage of potential fire hazards; control of potential ignition sources; persons responsible for equipment and systems maintenance; location of portable fire extinguishers; automatic sprinkler fire suppression system; water-spray fire system; coordination with local fire department; and recordkeeping requirements.

BMP-5 **Emergency Action Plan.** As required by Title 8 CCR Section 3220, the Project would develop a site-specific operations phase Emergency Action Plan. The operations Emergency Action Plan would address potential emergency situations

TABLE 2-5
BEST MANAGEMENT PRACTICES

BMP	Description
	requiring emergency response and/or planned evacuation. The plan would describe accident scenarios, evacuation routes, alarm systems, points of contact, assembly areas, responsibilities, and other actions to be taken in the event of an emergency. In particular, the plan would describe arrangements with local emergency response agencies.
BMP-6	**Lighting Plan.** A lighting plan would be prepared that documents how lighting will be designed and installed to minimize night-sky impacts during facility construction and operations. Lighting for facilities will not exceed the minimum number of lights and brightness required for safety and security and will not cause excessive reflected glare. Light fixtures will not spill light beyond the Project boundary. Where feasible, vehicle-mounted lights will be used for night maintenance activities. Wherever feasible, consistent with safety and security, lighting will be kept off when not in use. The lighting plan will include a process for promptly addressing complaints about lighting.
BMP-7	**Trash Abatement Plan**. A Trash Abatement Plan shall be developed that focuses on containing trash and food in closed and secure sealable containers, with lids that latch, and removing them periodically to reduce their attractiveness to opportunistic species, such as common ravens, coyotes, and feral dogs, that could serve as predators of native wildlife and special-status animals. The Plan would also establish a regular litter pick-up procedure within and around the perimeter of the Project area, and removal of construction-related trash containers from the Project area when construction is complete.
BMP-8	**Cleanup and restoration.** Upon completion of construction activities, all unused materials and equipment shall be removed from the Project area. All construction equipment and refuse including, but not limited to, wrapping material, cables, cords, wire, boxes, rope, broken equipment parts, twine, strapping, buckets, and metal or plastic containers shall be removed from the site and disposed of properly after completion of construction. Any unused or leftover hazardous products shall be properly disposed of off-site.
BMP-9	**Hazardous materials.** As required by the Clean Air Act, Section 401 of the Clean Water Act, the Toxic Substance Control Act, and the Hazardous Materials Transportation Act, all vehicles and equipment must be in proper working condition to ensure that there is no potential for fugitive emissions or accidental release of motor oil, fuel, antifreeze, hydraulic fluid, grease, or other hazardous materials. Equipment must be checked for leaks prior to operation and repaired as necessary. Refueling of equipment must take place on existing paved roads, where possible, and not within or adjacent to drainages. Hazardous spills must be cleaned up immediately. Contaminated soil would be disposed of at an approved offsite landfill, and spills reported to the permitting agencies. Service/maintenance vehicles should carry

TABLE 2-5
BEST MANAGEMENT PRACTICES

BMP	Description
	appropriate equipment and materials to isolate and remediate leaks or spills, and an on-site spill containment kit for fueling, maintenance, and construction will be available. Cleaning of construction vehicles at commercial car washes should be considered rather than washing vehicles on the Project area so that dirt, grease, and detergents are treated effectively at existing facilities designed to handle those types of wastes.
BMP-10	**Integrated Weed Management Plan.** In compliance with the Federal Noxious Weed Act and the Plant Protection Act, a Project-specific integrated weed management plan for the control of noxious weeds and invasive plant species would be prepared. The plan would identify presence, location, and abundance of weed species in the Project area and surrounding area adjacent to the Project, as well as identify suppression and containment measures to prevent the spread of weed species and introduction of weed species. Prevention techniques would include: limiting disturbance areas during construction to the minimum required to perform work; limiting ingress and egress to defined routes; maintaining vehicle wash and inspection stations; and closely monitoring the types of materials brought on site to minimize the potential for weed introduction. During operations, noxious and invasive weed management will be incorporated as a part of mandatory site training for groundskeepers and maintenance personnel. Training will include weed identification and the impacts on agriculture, wildlife, and fire frequencies. Training will also cover the importance of preventing the spread of noxious weeds and of controlling the proliferation of existing weeds.
BMP-11	**Project structures, gen-tie line, and building surfaces.** Project facilities would be sited to ensure that there is adequate space (i.e., setbacks of no less than 100 feet) between solar facilities and natural washes. These setbacks would preserve and maintain the natural washes' hydrological functions. The color and finish of Project structure and building surfaces that are visible to the public will be designed to ensure minimal visual intrusion, contrast, and glare. Grouped structures will be painted the same color to reduce visual complexity and color contrast. Solar panel backs will be color-treated to reduce visual contrast with the landscape setting. Materials, coatings, or paints having little or no reflectivity will be used wherever possible.
BMP-12	**Gen-tie lines.** Gen-tie line support structures and other facility structures shall be designed in compliance with current standards and practices to discourage their use by raptors for perching or nesting (e.g., by use of anti-perching devices). This design would also reduce the potential for increased predation of special-status species, such as the desert tortoise. Mechanisms to visually warn birds (permanent markers or bird flight diverters) shall be placed on gen-tie lines at regular intervals to prevent birds from colliding with the lines (APLIC 2006 and USFWS 2010). To the extent practicable, the use of guy wires shall be avoided because they pose a collision hazard for birds and bats. Necessary guy wires shall be clearly marked with bird

TABLE 2-5
BEST MANAGEMENT PRACTICES

BMP	Description
	flight diverters to reduce the probability of collision. Shield wires shall be marked with devices that have been scientifically tested and found to significantly reduce the potential for bird collisions. Gen-tie lines shall utilize non-specular conductors and non-reflective coatings on insulators.
BMP-13	**Ground and surface disturbance.** Construction boundaries would be clearly delineated to minimize areas of ground and surface disturbance. Ground-disturbing activities shall be minimized, especially during the rainy season. Construction-related activities (such as vehicle and foot traffic) would avoid areas with intact biological soil crusts. For cases in which impacts cannot be avoided, soil crusts would be salvaged and restored on the basis of recommendations by the County of Riverside and BLM once construction has been completed. Existing rocks, vegetation, and drainage patterns shall be preserved. No paint or permanent discoloring agents shall be applied to rocks or vegetation (to indicate surveyor construction activity limits or for any other purpose). All stakes and flagging shall be removed from the construction area and disposed of in an approved facility. Brush-beating, mowing, or use of protective surface matting rather than removing vegetation shall be employed. Clearing and disturbing of sensitive areas (e.g., steep slopes and natural drainages) and other areas shall be avoided outside the construction zone. Surface disturbance would be minimized by utilizing undulating surface disturbance edges; stripping, salvaging, and replacing topsoil; using contoured grading; controlling erosion; using dust suppression techniques; and restoring exposed soils to their original contour and vegetation.
BMP-14	**Travel and traffic.** Vehicular traffic on site shall be confined to existing or designated travel routes and designated work areas. Access to the construction site and staging areas shall be limited to authorized vehicles and only through the designated roads. The extent of habitat disturbance during construction shall be reduced by keeping vehicles on access roads and minimizing foot and vehicle traffic through undisturbed areas. Travel shall be limited to stabilized roads. Road maintenance activities shall avoid blading existing forbs and grasses in ditches and adjacent to roads. Abandoned roads and roads no longer needed shall be subsoiled to increase infiltration and reduce soil compaction, then recontoured and revegetated. Construction traffic shall avoid unpaved surfaces to the extent practical (to reduce the risk of compaction) and reduce speed to lessen fugitive dust emissions. On unpaved or unstablized surfaces within the construction site, speed limits (e.g., 20 mph) shall be posted with visible signs and enforced to minimize airborne fugitive dust. Project vehicle speeds shall be limited in areas occupied by special-status animal species. Traffic shall stop to allow wildlife to cross roads. Shuttle vans or carpooling shall be used where feasible to reduce the amount of traffic on access roads. Workers shall be trained to comply with the speed limit, use good engineering practices, minimize the drop height of materials, and minimize the number and extent of disturbed areas. The

TABLE 2-5
BEST MANAGEMENT PRACTICES

BMP	Description
	Project developer shall enforce these requirements.
BMP-15	**New access roads and parking lots.** New access roads shall be designed and constructed to the appropriate road design standards, such as those described in BLM Manual 9113 or County standards, whichever is applicable. New access roads shall be designed to follow natural land contours in the Project area and avoid existing desert washes. The specifications and codes developed by the U.S. Department of Transportation (DOT) and County of Riverside Transportation Department are also to be taken into account. Primary access roads and parking lots shall be surfaced with aggregate that is hard enough that vehicles cannot crush it and thus cause dust or compacted soil conditions. Paving may also be used on access roads and parking lots. Alternatively, chemical dust suppressants or durable polymeric soil stabilizers would be used on these locations.
BMP-16	**Diesel engines.** All diesel engines used in the facility would be fueled only with ultra-low sulfur diesel with a sulfur content of 15 parts per million (ppm) or less. The Project would require use of construction diesel engines with a rating of 50 horsepower (hp) or higher that meet, at a minimum, the Tier 3 California Emission Standards for Off-Road Compression Ignition Engines, as specified in the California Code of Regulations, Title 13, Section 2423(b)(1), unless such engines are not available. If a Tier 3 engine is not available for off-road equipment larger than 100 hp, a Tier 2 engine, or an engine equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NO_x) and diesel particulate matter (DPM) to no more than Tier 2 levels, may be used; however document to the County shall be provided discussing attempts to utilize Tier 3 vehicles. Regulatory agencies may determine that use of such devices is not practical when: • There is no available retrofit control device verified by either the California Air Resources Board (CARB) or the U.S. Environmental Protection Agency (EPA) to control engines in question to Tier 2 equivalent emission levels and the retrofitted or Tier 1 engines use the highest level of available control technology. • The construction equipment is intended to be on site for five days or less. • It can be demonstrated there is a good faith effort to comply with the recommendation and that compliance is not practical. The idling time of diesel equipment would be limited to no more than 10 minutes, unless idling must be maintained for proper operation (e.g., drilling, hoisting, and trenching).
BMP-17	**High wind conditions.** In compliance with MDAQMD Rule 403 criteria, all soil-disturbing activities and travel on unpaved roads must be suspended during periods of high winds. A 25 mph wind speed has been determined on the basis of soil properties

TABLE 2-5
BEST MANAGEMENT PRACTICES

BMP	Description
	identified during site characterization. Monitoring of the wind speed would be required at the site during construction, operation, maintenance, and decommissioning.
BMP-18	**Noise.** The Project would minimize construction- and operation-related noise levels within 0.25 miles to sensitive receptors to minimize impacts to nearby residents. To minimize noise sensitive receptors, as well as wildlife, all construction vehicles and equipment (fixed or mobile) shall be equipped with properly operating and maintained mufflers, consistent with the manufactures' standard. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the Project area.
BMP-19	**Plants and wildlife.** In compliance with the California Department of Fish and Game Codes, while on the Project property, workers or visitors would be prohibited from: feeding wildlife; moving live, injured, or dead wildlife off roads, right-of-ways (ROWs), or the Project area; bringing domestic pets to the Project area; collecting native plants; and harassing wildlife. Areas where wildlife could hide or be trapped (e.g., open trenches, sheds, pits, uncovered basins, and laydown areas) would be covered. If the trenches or excavations cannot be covered, a ramp that will sufficiently allow wildlife to escape shall be placed into the trench or excavated area, or exclusion fencing (i.e., silt fencing) shall be installed around the trench or excavation to prevent entrapment of wildlife. Open trenched, or other excavations that could entrap wildlife, shall be inspected by the qualified biologists daily and immediately before backfilling. For example, an uncovered pipe that has been placed in a trench should be capped at the end of each workday to prevent animals from entering the pipe. If a special-status species is discovered inside a component, that component must not be moved, and the qualified biologist shall determine the appropriate course of action. As open trenches could impede the seasonal movements of large game animals and alter their distribution, they would be backfilled as quickly as possible. Open trenches could also entrap smaller animals; therefore, escape ramps would be installed along open trench segments at distances identified in the applicable land use plan or by the best available information and science. If traffic is being unreasonably delayed by wildlife in roads, personnel would contact the Project biologist, who will take any necessary action. Any vehicle-wildlife collisions would be immediately reported to the Project biologist. Observations of potential wildlife problems, including wildlife mortality, would be immediately reported to the County or other appropriate agency authorized officer.
BMP-20	**Waste Recycling Plan**. Prior to issuance of a grading and building permit, A Waster Recycling Plan shall be submitted to the Riverside County Department of Waste Resources for approval. The plan shall identify: materials (i.e., cardboard, concrete,

TABLE 2-5
BEST MANAGEMENT PRACTICES

BMP	Description
	asphalt, wood, etc.) that will be generated by construction and development; projected amounts of materials; measures/methods that will be taken to recycle, reuse, and/or reduce the amount of materials; the facilities and/or haulers; and the target recycling or reduction rate. During Project construction, the construction site shall have, at a minimum, two bins: one for waste disposal and the other for recycling of construction and demolition materials. An accurate record keeping system of recycling construction and demolition recyclable materials and solid waste disposal shall also be established. Site design and Source Control BMPs shall be implemented according to County Standards**.**

CHAPTER 3
Environmental Setting, Impacts, and Mitigation Measures

The focus of Chapter 3 is on the proposed Palo Verde Mesa Solar Project (PVMSP or Project) activities that were found to have the potential to result in significant adverse impacts to the physical environment. Chapter 3 discusses the existing environmental setting (or conditions), environmental impacts associated with implementation of the Project, and mitigation measures to avoid or substantially reduce significant impacts, where necessary, for the following resource areas:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils and Mineral Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Paleontological Resources
- Population and Housing
- Public Services and Utilities
- Recreation
- Traffic and Circulation

For each resource area listed above, this draft environmental impact report includes the following components.

Environmental Impacts

This subsection identifies the impacts of the proposed Project on the existing environment, in accordance with CEQA Guidelines Sections 15125 and 15143. Specifically, this EIR analyzes impacts related to the construction of a 450 megawatt (MW) solar facility and full build-out of a 14.5-mile transmission line. Analyses for each resource area consider direct, indirect, and cumulative effects of the proposed Project, including short-term effects during construction and decommissioning and long-term effects during operations. The cumulative effects of the Project and other related projects are also evaluated in this chapter. Any recommended measures to reduce or avoid significant adverse effects are also presented in this section.

This EIR has been prepared to comply with the requirements of the California Environmental Quality Act (CEQA). CEQA requires an EIR to identify the significant environmental effects of the Project. An EIR typically presents criteria that are specifically used to determine whether or not an adverse impact is significant under CEQA. An EIR must also describe feasible mitigation measures, if any, that could minimize each significant adverse impact. Potentially feasible mitigation measures that could minimize impacts determined significant under CEQA are specifically identified in this EIR as "mitigation measures." This EIR also states whether the impact determined significant under CEQA remains significant after implementation of the mitigation measure(s).

The Blythe Mesa Solar Project (BMSP), another large-scale solar development immediately adjacent to the PVMSP, was approved by both BLM and Riverside County in 2015 and would construct a double-circuit 230 kilovolt (kV) gen-tie line within the same corridor as the PVMSP's 14.5-mile gen-tie line. If available (i.e., constructed prior to the PVMSP), the PVMSP would string 8.9 miles of conduit within the vacant circuit position on the BMSP's double-circuit poles, which are located within a shared portion of the PVMSP's planned 14.5-mile gen-tie line route. Under this scenario, only 5.6 miles of new gen-tie line poles (from the PVMSP substation to the BMSP's Interstate 10 Substation) would be required to be constructed as part of the PVMSP. However, to ensure a conservative analysis, this EIR evaluates the impacts of constructing new gen-tie line poles; as if a vacant position on the double-circuit poles were not available.

Environmental Setting

This subsection presents the existing environmental conditions at the Project Site and in the surrounding area as appropriate, in accordance with Section 15125 of the California Environmental Quality Act (CEQA) Guidelines. The discussions of the environmental setting focus on information relevant to the issues under evaluation. The baseline conditions reflect the conditions around the time of the issuance of the Notice of Preparation (August 8, 2012), and are used for comparison to establish the type and extent of the potential environmental impacts. The terms "Project area" and "PVMSP area" refer to the proposed 450 megawatt (MW) solar photovoltaic (PV) facility and 230 kilovolt (kV) transmission line (gen-tie line) corridor that would occupy approximately 3,400 acres.

The information and data used to prepare the Environmental Setting were obtained from several sources including the City of Blythe General Plan, County of Riverside General Plan, Palo Verde

Valley Area Plan, and California Desert Conservation Area (CDCA) Plan. In addition, information was obtained from various U.S. Department of the Interior, Bureau of Land Management (BLM) planning documents, California Energy Commission documents, research publications prepared by various federal and State agencies, and private sources pertaining to key resource conditions found within the Project area. The discussions in this chapter were also informed by the surveys and studies conducted for the Project, as noted throughout this chapter.

Regulatory Setting

This subsection presents information on the laws, regulations, plans, and policies that relate to the issue area being discussed. Regulations originating from local, state, and federal levels are discussed as appropriate.

The information and data used to prepare the Regulatory Background were obtained from the same sources listed above under Environmental Setting.

The impact analysis for each of the resource areas is structured as outlined below.

Methodology for Analysis

The Methodology for Analysis sections describe the process of analyzing the effects of the proposed Project. In assessing impacts, this EIR presumes that existing regulations and other public agency requirements, along with Best Management Practices (BMPs) that have been incorporated into the Project, will be implemented.

Applicable Best Management Practices

For the purposes of this EIR, the applicable BMPs are: 1) requirements of existing policies, practices, and measures required by law, regulation, or local policy; 2) ongoing, regularly occurring practices; and 3) general measures, not specific to the proposed Project and alternatives that may be applied to other projects. The BMPs identified in this EIR are inherently part of the proposed Project. They are not additional mitigation measures proposed as a result of the significance findings from the CEQA environmental review process. A complete list of BMPs for the proposed Project may be found in Chapter 2 of this Draft EIR.

CEQA Significance Thresholds

The CEQA Significance section describes the criteria used to determine which impacts should be considered potentially significant. Significance thresholds are based on criteria identified in Appendix G of the CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 1500-15387). Other federal, State, or local standards—in particular, the significance criteria from the County of Riverside's Environmental Assessment form—are also taken into account when defining significance thresholds.

Effects Found Not to Be Significant

This section complies with section 15128 of the CEQA Guidelines, and sets forth a brief statement of the reasons why various possible significant effects of a project have been determined not to be significant and, therefore, are not discussed in further detail in the EIR.

Impact Analysis

The Impact Analysis section presents an assessment of the identified impacts and discloses the level of significance for each impact.

Mitigation Measures

The Mitigation Measures section identifies the actions to eliminate or reduce potentially significant impacts of the proposed Project. Existing regulations and other public agency requirements, BMPs, and procedures that apply to similar projects are considered in determining what additional Project-specific mitigation may be required to reduce or eliminate impacts.

Significance after Mitigation

The Significance after Mitigation section indicates whether impacts would remain even after application of the proposed mitigation measures. Any impacts that cannot be eliminated or reduced to a level of less than significant are considered residual impacts of the proposed Project.

Cumulative Impacts

The Cumulative Impacts section describes effects that may be individually limited but cumulatively considerable when measured along with other approved, proposed, or reasonably foreseeable future projects. Please refer to Section 3.3 for a detailed discussion regarding the cumulative impact approach. It should be noted that this analysis assumed that the PVMSP and BMSP circuits would be placed on the same double-circuit poles. Therefore, this cumulative analysis accounts for the environmental impacts that would result from the construction of a proposed 14.5-mile-long 230 kV gen-tie line, of which 5.6 miles are single-circuit towers and 8.9 miles are double-circuit towers; it does not account for the construction of two parallel 8.9-mile-long 230 kV gen-tie lines.

Cumulative Impact Analysis

CEQA Requirements for Cumulative Impact Analysis

California Environmental Quality Act (CEQA) Guidelines Section 15130 requires that an environmental impact report (EIR) shall discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." "Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." (CEQA Guidelines, Section 15355; see also Pub. Resources Code, Section 21083, subd. (b).) Stated another way, "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts." (CEQA Guidelines, Section 15130, subd. (a)(1) (emphasis added).) The definition of cumulatively considerable is provided in 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.

According to Section 15130(b) of the CEQA Guidelines:

> [t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

For purposes of this DEIR, the proposed Project would cause a cumulatively considerable and therefore significant contribution to a cumulative impact if:

- The cumulative effects of other past, current, and probable future projects without the Project are not significant and the Project's incremental impact is substantial enough, when added to the cumulative effects, to result in a significant cumulative impact; or
- The cumulative effects of other past, current, and probable future projects without the Project are already significant and the Project would result in a cumulatively considerable contribution to the already significant effect. The standards used herein to determine whether the contribution is cumulatively considerable include the existing baseline environmental conditions, and whether the project would cause a substantial increase in impacts, or otherwise exceed an established threshold of significance.

Method of Analysis

CEQA Guidelines Section 15130 provides that the following approaches can be used to adequately address cumulative impacts:

- Regional Growth Projections Method — A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the Lead Agency; or
- List Method — A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency.

For the purpose of this DEIR, the list method is used.

Consistent with CEQA, a two-step approach was used to analyze cumulative impacts. The first step was to determine whether the combined effects from the proposed project and other projects would be cumulatively significant. This was done by adding the proposed project's incremental impact to the anticipated impacts of other probable future projects and/or reasonably foreseeable

development. Where the combined effect of the projects and/or projected development was determined to result in a significant cumulative effect, the second step was to evaluate whether the proposed project's incremental contribution to the combined significant cumulative impact would be cumulatively considerable as required by CEQA Guidelines Section 15130, subdivision (a).

It should be noted that CEQA Guidelines Section 15064, subdivision (h)(4) states that "[t]he mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable." Therefore, it is not necessarily true that, even where cumulative impacts are significant, any level of incremental contribution must be deemed cumulatively considerable by the lead agency. If the proposed project's individual impact is less than significant, however, its contribution to a significant cumulative impact could be deemed cumulatively considerable depending on the nature of the impact and the existing environmental setting. If, for example, a proposed project is located in an air basin determined to be in extreme or severe nonattainment for a particular criteria pollutant, a project's relatively small contribution of the same pollutant could be found to be cumulatively considerable. Thus, depending on the circumstances, an impact that is less than significant when considered individually may still be cumulatively considerable in light of the impact caused by all projects considered in the analysis.

Geographic Scope

The geographic area affected by the proposed Project and its potential to contribute to cumulative impacts varies based on the environmental resource under consideration. The area of cumulative effect varies by resource. Generally, the geographic area associated with the environmental effects of the Project defines the boundaries of the area used for compiling the list of past, present and reasonably foreseeable future related projects considered in the cumulative impact analysis. The geographic scope of each analysis is based on the topography surrounding the Project area and the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects will often extend beyond the scope of the direct effects of a proposed project, but not beyond the scope of the direct and indirect effects of that proposed project. For example, the air quality analysis includes consideration of regional air emissions (e.g., reactive organic gases [ROG]/nitrogen oxides [NO_x] and particulate matter [PM]) and therefore includes the entire air basin. Conversely, in the case of noise impacts, given the localized impact Area of Concern (AOC), a smaller more localized area surrounding the immediate Project Site is appropriate for consideration. **Table 3-1** presents the geographic areas included within this analysis for purposes of determining whether the Project's contribution to a particular impact would be cumulatively considerable and therefore significant and **Table 3-2,** provides a list of the projects that are evaluated as part of the cumulative analysis. An explanation of the geographic scope selected for each resource is also briefly included below under the impact analysis.

TABLE 3-1
GEOGRAPHIC SCOPE OF CUMULATIVE IMPACTS ANALYSIS

Resource Issue	Geographic Scope
Aesthetics	One-mile area around the perimeter of the solar facility
Agriculture and Forestry Resources	Palo Verde Mesa and Palo Verde Valley
Air Quality	Mojave Desert Air Basin (MDAB)
Biological Resources	A large portion eastern Riverside County that consists of similar habitat areas as found in the area of the project site
Cultural Resources	Palo Verde Mesa and Palo Verde Valley
Geology, Soils and Mineral Resources	Eastern Riverside County
Greenhouse Gas Emissions	Earth's atmosphere
Hazards and Hazardous Materials	Areas extending one mile from the boundary of the project site
Hydrology and Water Quality	Hydrologic Sub-Area (HSA 715.40) of the Palo Verde Hydrologic Area
Land Use and Planning	Eastern Riverside County
Noise	Areas extending 0.5 mile from the boundary of the project site.
Paleontological Resources	All projects on the same geologic units within Eastern Riverside County, including Holocene alluvium, Pleistocene alluvium, and dry desert washes
Public Services and Utilities	The service areas of each of the providers serving the project.
Population and Housing	Areas within a 1-hour worker commute to the project site
Recreation	20 mile area around the perimeter of the solar facility
Traffic and Circulation	The study roadways and intersections and I-10

Temporal Scope

This cumulative impact analysis considers other projects that have been recently completed, are currently under construction, or are reasonably foreseeable (e.g., for which an application has been submitted). Both short-term and long-term cumulative impacts of the proposed Project, in conjunction with other cumulative projects in the area, are evaluated in this chapter of the DEIR.

The schedule and timing of the proposed Project and other cumulative projects is relevant to the consideration of cumulative impacts. Each project in a region will have its own implementation schedule, which may or may not coincide or overlap with the construction schedule for the PVMSP. This is a consideration for short-term impacts from the proposed Project. However, to be conservative, the cumulative analysis assumes that all projects in the cumulative scenario are built and operating during the operating lifetime of the proposed Project.

The previously mentioned BMSP is included as one of these projects under the cumulative analysis. As described above, the BMSP includes a double-circuit 230 kV gen-tie line located within the same corridor as the PVMSP's 14.5-mile gen-tie line. Under the cumulative scenario, only 5.6 miles of new gen-tie line poles (from the PVMSP substation to the BMSP's Interstate 10 Substation) are considered for the proposed Project, as the remaining 8.9 miles of gen-tie line would be constructed as part of the BMSP.

TABLE 3-2
CUMULATIVE PROJECTS LIST

Project Name/Applicant	Location	Status	Project Description
Solar Projects			
Blythe Airport Solar I Project • U.S. Solar	6 miles East of Blythe. Northeast of Blythe Municipal Airport	Approved by the County of Riverside EA Pending with the FAA	100 MW photovoltaic power plant; 640 acres; construct in five 20 MW phases; includes a 3,200-ft-long 33 kV generation tie.
Blythe Solar Power Project/ • NextEra	8 miles west of Blythe	Notice of Intent issued 8/30/2013 Licensed; in compliance phase	485 MW PV solar plant; 4,138 acres of BLM-administered public land.
Blythe Mesa Solar Project • RRG	5 miles northwest of Blythe	County Certified Final EIR/EA BLM Approved EIR/EA	485 MW PV solar plant; includes a 8.4-mile-long gen-tie line to the Colorado River Substation; on 3,660 acres
Genesis Solar Energy Project/ • NextEra Energy Resources	22 miles west of Blythe	Licensed; In Compliance Phase: Unit 2, November 30, 2013; Unit 1, March 7, 2014.	250 MW (two adjacent, independent solar plants with a 125 MW capacity each) solar thermal electric generating facility, using solar parabolic trough technology; includes 6-mile natural gas pipeline and 5.5-mile transmission line interconnecting Blythe Energy Center to Julian Hinds Transmission Line; on 1,950 acres.
McCoy Solar Energy Project • McCoy Solar, LLC	10 miles northwest of Blythe	BLM Approved EIS 3/13/13. ROW grants signed12/2/13 and 8/12/14.	Up to a 750 MW PV solar power plant using photovoltaic technology; 16-mile-long 230 kV generation-tie and switchyard that would connect to SCE's Colorado River Substation. .
Desert Quartzite/ • First Solar Development, Inc.	8 miles southwest of Blythe	A Notice of Intent to prepare an Environmental Impact Statement was published in the Federal Register on March 6, 2015.	600 MW, Photovoltaic, 7,245 acres disturbed, no transmission line
Mc Coy Soleil Project (different from the McCoy Solar Project CACA 48728) • enXco, Inc.	11 miles southwest of Blythe	Planned	300 MW PV solar plant, 1,216 acres.
Blythe Solar Power Generation Station 1, LLC • Southwestern Solar Power, LLC	6 miles north of Blythe	Approved	4.76 MW solar PV facility; on 29.4 acres
Sonoran West SEGS • BrightSource	12 miles west of Blythe	Pre-NOI	540 MW solar PV facility; total of 12,269 acres.
Mule Mountain III • Solar Reserve	15 miles Southwest of Blythe	Pre-NOI	150 MW solar facility to occupy a total of 8,160 acres.
Gypsum Solar Project	6 miles north of Blythe	Case sent to California Desert District August 2011	100 MW solar photovoltaic facility to occupy a total of 2,840 acres.

TABLE 3-2
CUMULATIVE PROJECTS LIST

Project Name/Applicant	Location	Status	Project Description
Desert Sunlight Project • First Solar	6 miles north of Desert Center; 46 miles northwest of Blythe	Operational	550 MW, 4,144 acre, solar photovoltaic project located on 7,724 acres. Adjacent to DPV transmission line.
Desert Center 50	Desert Center; 38 miles northwest of Blythe	Under review by County of Riverside	A planned 49.5 MW fixed flat panel photovoltaic solar power plant, on 452 acres, on APN 811-190-004, 811-231-001, 003, 004, and 008.
Sol Orchard	Desert Center; 43 miles northwest of Blythe	Operational	1.5 MW fixed flat panel photovoltaic power plant, on 10 acres, north of I-10, east of SR177, and west of Desert Center Airport.
Maverick Solar Project	North of I-10, 10 miles east of Desert Center; 33 miles northwest of Blythe	Under review by BLM and County of Riverside	400 MW photovoltaic solar project
Wildcat Quartzsite Wildcat Quartzsite LLC/Bright Source	La Paz County; along U.S. 395 south of Quartzsite	Approved	800 MW concentrating solar power plant on approximately 12,000 acres.
Quartzsite Solar Energy Project Solar Reserve	10 miles north of Quartz, AZ	Approved. A Record of Decision (ROD) was signed on May 30, 2013. The ROD approves the use of 1,675 acres of BLM-managed land for development of a solar energy project. Construction date has not been given, scheduled as of March 2015.	100 MW concentrating solar power plant; less than 1.5 mile transmission line.
Wind Energy Projects			
Graham Pass Wind Energy Project • Graham Pass, LLC	Graham Pass Rd. between Desert Center & Blythe	Testing	30,855-acre, 600 MW wind farm that would include up to 200 three-megawatt wind turbines
Eagle Mountain Wind	Eagle Mountain; 51 miles northwest of Blythe	Testing	3,500-acre wind facility with met towers
John Deere Renewables Type II	Chuckwalla; 34 miles southwest of Blythe	Testing	5,763-acre wind facility.
Riverside Wind Energy Black Hills Type II	Black Hills; 27 miles southwest of Blythe	Testing	11,537-acre wind facility
Electrical Facilities			
Devers – Palo Verde 2 Transmission Line • CUPC A. 05-04-015	Western Riverside County to Blythe, CA	Notice to Proceed signed September 2011; under construction. Construction is complete; ongoing site restoration work through 2015	41.6-mile-long transmission line; second 500 kV transmission line between the Devers substation and SCE's Valley substation

TABLE 3-2
CUMULATIVE PROJECTS LIST

Project Name/Applicant	Location	Status	Project Description
Desert Southwest Transmission Line	Palm Springs to Blythe	Approved June 2007	118-mile 500 kV transmission line from Blythe Energy Project substation to the existing Devers Substation. Located adjacent to SCE's existing 500 kV Devers – Palo Verde 1 transmission line.
SCE Red Bluff Substation	South of I-10 at Desert Center; 42 miles northwest of Blythe	Project approved in July, 2011; under construction	Proposed new 500/250 kV substation, two new parallel 500 kV transmission lines of about 2,500 to 3,500 feet each to loop the substation into the existing DPV 500 kV transmission line (DVPV1), and two parallel 500 kV transmission lines of about 2,500 to 3,500 feet each to loop the new substation into the proposed Devers-Colorado River 500 kV transmission line (DPV2) into the new substation with another two parallel lines of about 2,500 to 3,500 feet each.
Colorado River Substation	13 miles southwest of Blythe	Operational	500/230 kV substation and would be constructed in an area approximately 1,000 feet by 1,900 feet
Eagle Mountain Pumped Storage Hydroelectric Project	Eagle Mountain iron ore mine, north of Desert Center; 52 miles northwest of Blythe	Final EIS published Jan. 2012.	1,300 MW pumped storage project on 1,524 acres, designed to store off-peak energy to use during peak hours.
Blythe Energy Project II	Blythe, CA. Near Blythe Municipal Airport & I-10; 5 miles west of Blythe	Notice of decision regarding petition to extend the deadline for commencement of construction- 2011; Petition to Amend presented April 2012	520 MW combined-cycle power plant located entirely within the Blythe Energy Project site boundary. Blythe Energy Project II would interconnect with the Buck Substation constructed by WAPA as part of the Blythe Energy Project. Project is designed on 20 acres of a 76-acre site.
Other Construction			
Eagle Mountain Landfill Project	Eagle Mountain, North of Desert Center	Land exchange for the project was not properly approved. Kaiser's Mine and Reclamation is considering all available options	Class III nonhazardous municipal solid waste landfill that would accept up to 20,000 tons of non-hazardous waste per day for 50 years. Project also involves the renovation and repopulation of Eagle Mountain Townsite. Project on approximately 3,500 acres. The proposal includes a land exchange and application for rights-of-way with the BLM and a Specific Plan, General Plan Amendment, Change of Zone, Development Agreement, Revised Permit to Reclamation Plan, and Tentative Tract Map with the County.
Wiley's Well Communication Tower (Part of the Public Safety Enterprise Communication System)	18 miles west of Blythe	Final EIR published in August 2008	The Public Safety Enterprise Communication project is the expansion of Riverside County's fire and law enforcement agencies approximately 20 communication sites to provide voice and data transmission capabilities to personnel in the field.
Agate Senior Housing Development	Blythe, CA	Approved in 2006	This is an active Tax Credit Allocation Project. Active parcel Map extensions submitted since approval date. No construction is anticipated within the next fiscal year.
Residential developments[1]	Blythe, CA	Pending approval	Eight pending residential Tentative Tract Maps for 660 proposed new homes. Most of the maps were tentatively approved back in 2008 and 2009 and each has remained active by virtue of legislative extensions granted by the Governor.

TABLE 3-2
CUMULATIVE PROJECTS LIST

Project Name/Applicant	Location	Status	Project Description
12 residential developments[1]	Blythe, CA	Approved or under construction	Nine residential development projects have been approved by the Blythe Planning Department including: Vista Palo Verde (83 Single Family Residential [SFR]), Van Weelden (184 SFR), Sonora South (43 SFR), Irvine Assets (107 SFR), Chanslor Village (79 SFR), St. Joseph's Investments (69 SFR), Edgewater Lane (SFR), the Chanslor Place Phase IV (57 SFR), Palo Verde Oasis Phase IV (29 SFR). Three residential development projects have been approved and are under construction including: the Chanslor Phase II & III (78 SFR), River Estate at Hidden Beaches, Mesa Bluffs Villas (26 Attached SFR), Ranchette Estates (20 SFR).
Hampton Inn and Suites • PP 2011-02	Blythe; I-10 and Intake Blvd.	Approved April 2012	Proposed 18,716-square foot, 81-room, three-story hotel and parking lot on an approximately 13-acre site (hotel would only cover 2.47 acres). Construction anticipated by third quarter 2012. Other site features include porte cochere, smoking shelter, and storage building.

[1]Project location information not available and not depicted on map in Figure 4.1-1.

BLM: U.S. Department of the Interior, Bureau of Land Management
CEC: California Energy Commission
DPV: Devers-Palo Verde
EIS: Environmental Impact Statement
I-10: Interstate 10
kV: kilovolt
MW: megawatt
POD: Plan of Development
PV: photovoltaic
ROW: right-of-way
SCE: Southern California Edison
SFR: single family residence
WAPA: Western Area Power Administration

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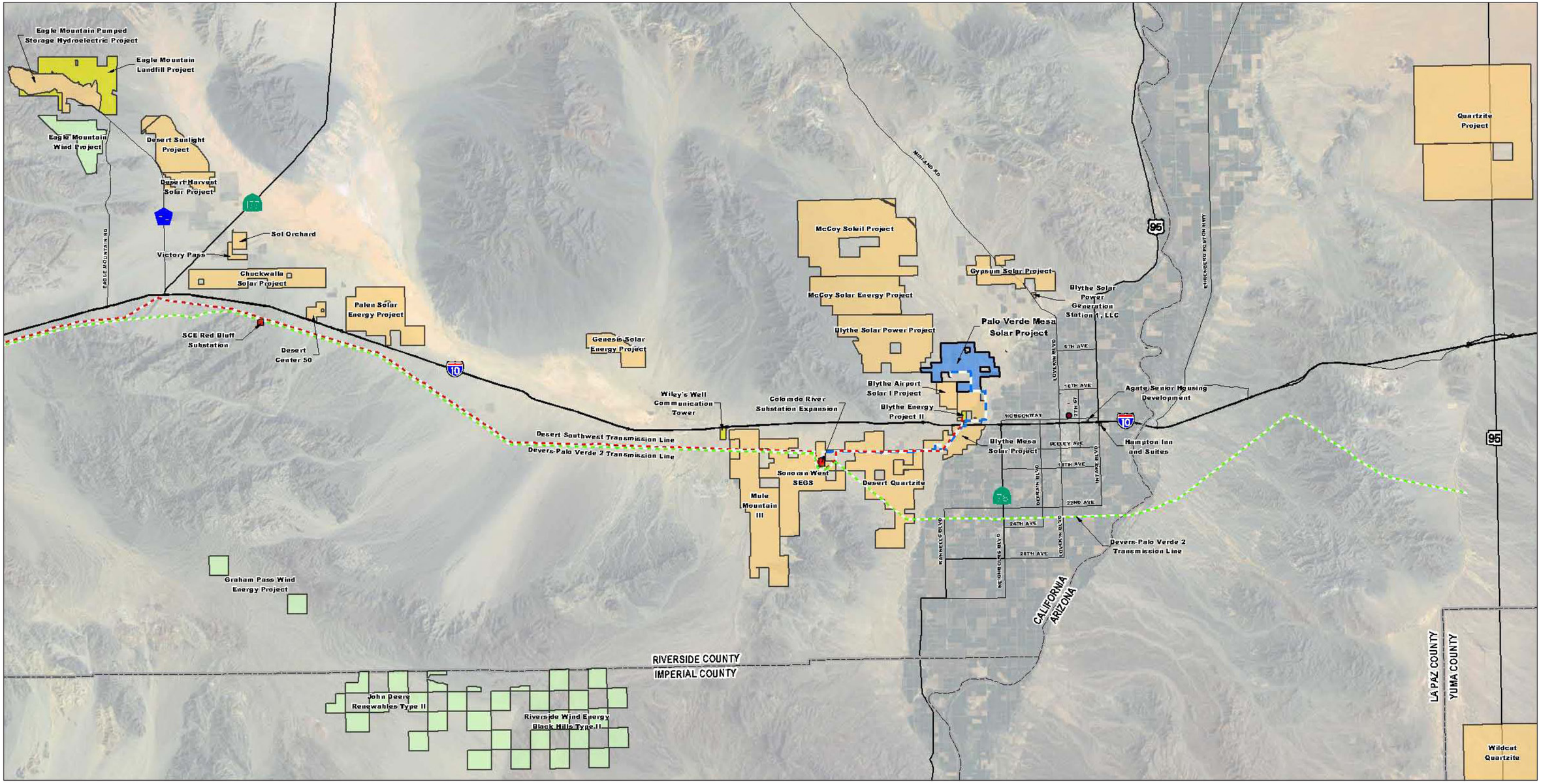


Proposed Project

- Palo Verde Mesa Site Boundary
- Palo Verde Mesa 230kV Line

Proposed Projects

- Solar Energy Project
- Wind Energy Project
- Other Construction

Proposed Electrical Facilities

- Proposed Desert Southwest 500kV Line
- Proposed Devers-Palo Verde #2 500kV Line
- Substation

N

0 5 10

Miles

SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3-1

Cumulative Projects

3.1 Aesthetics

This section discusses impacts associated with the potential for the Project to degrade the existing visual character or quality of the Project site and its surroundings through changes in the existing landscape. Potential effects are evaluated relative to important visual features (sensitive viewpoints, scenic highways, etc.) and the existing visual landscape and its users. These elements can be either natural or human-made. Degradation of the visual character of a site is addressed through a qualitative evaluation of the changes to the aesthetic characteristics of the existing environment and the Project-related modifications that would alter the visual setting.

3.1.1 Environmental Setting

Existing Visual Setting

The Project would be located in the Colorado Desert in the Great Basin section of the Basin and Range Physiographic Province (Fenneman, 1931). The topography of the Basin is relatively flat with occasional desert washes and slopes toward the southeast; elevations range from 260 to 400 feet above mean sea level (amsl). The Project area is situated on the Palo Verde Mesa, which comprises a series of ancient raised river terraces. The following geographic features are located in proximity to the Project area: the Big Maria Mountains to the northwest, the McCoy Mountains to the west, the Mule Mountains to the southwest, and the Colorado River to the east. The steeply rising, barren-sloped McCoy Mountains visually dominate the mesa. The mountain ranges, trending northwest to southeast, create a natural barrier between the Colorado River and the greater Colorado Desert.

The Project would be located in eastern Riverside County, approximately 5 miles west of the city center of Blythe. Developed lands in the Project vicinity include agricultural fields (both active and fallow) and groves, residences, the Palo Verde Municipal Golf Course and associated residential area, Palo Verde College, the Blythe Airport, the Blythe Energy Center, Blythe Solar Project, electrical transmission lines, and commercial businesses. Interstate 10 (I-10), which is a Riverside County Eligible Scenic Corridor, crosses through the Project area in an east-west alignment. The Project area is bounded on the north by McCoy Wash, on the east by agricultural lands, on the west by Bureau of Land Management (BLM)-managed lands, and on the south by the Blythe Airport and other private lands that include agriculture and utility uses. The proposed solar facility site would be situated primarily within agricultural land, and the gen-tie line within private, disturbed lands and open public desert lands. Open desert lands surrounding the Project consist of creosote bush scrub and desert washes. Views of the surrounding mountains provide the most significant scenic vistas and backdrops in the area.

Visual Resources Study Area

A visual resources study area was developed for the Project based on the viewshed from which public vantage points afford views of the site. The geographic extent of this area was based on the scale of the Project and its visual influence on viewers and the landscape and the degree to which existing geographic features, such as bluffs, would shield views of Project components. Solar electrical generating facilities may be visible from long distances as a result of their large scale

and contrast with the landscape, particularly from elevated viewpoints that have open views that may encompass an entire facility. Because the Project would be located on relatively flat agricultural land and potential viewers typically would be located at the same elevation as the Project or at a lower elevation, views of the Project would be generally limited to the edges of the solar facility. Because of the low profile of the solar panels, the flat topography, limited development on the mesa on which the Project would be located, and lack of potentially sensitive viewpoints in the mountain ranges around the desert plain, the solar facility primarily would be visible within a 1.0-mile area around the perimeter of the solar facility. However, as explained later in the *Selection of Key Observation Points* section, a larger area was considered for potential inclusion in the study area, and analysis included a golf course located outside the visual resource study area because very few sensitive viewpoints were located closer to the proposed solar array site and because it is the closest recreation facility. For the 230 kV gen-tie line, a 1.5-mile area on each side (total of a 3-mile-wide study corridor) of the centerline was inventoried for visual setting and sensitive viewpoints.

The actual PVMSP solar facility itself (solar panels, substations, inverters, and the operations and maintenance [O&M] building) would be on lands in private ownership. Within the PVMSP solar facility site, the gen-tie line would extend a distance of approximately 2.7 miles on-site. The gen-tie line would extend off-site another 11.8 miles from the PVMSP solar facility site to the Colorado River Substation within a 100-foot-wide right-of-way (ROW). This ROW would traverse 6.1 miles (73.8 acres) of County of Riverside jurisdiction, 1.7 miles (21.0 acres) of City of Blythe jurisdiction, and 4 miles of BLM-managed lands (48.2 acres) for a total ROW area of 143 acres. See Table 2-1 for a summary of jurisdictional crossings.

Areas present within the visual resources study area include the following:

Cultivated Agriculture: These areas are vegetated, actively cultivated agricultural areas. Based on the Biological Report vegetation mapping (see Section 3.4, *Biological Resources*), approximately 91 percent (2,974 acres) of the solar facility site and 28 percent (198.8 acres) of the gen-tie line that extends outside the solar facility site are active agricultural fields. Within the solar facility site, active agriculture includes approximately 9.5 percent of drip-irrigated citrus orchards, 79.9 percent of non-irrigated wheat, and 0.6 percent of fallow agricultural fields. The portion of the gen-tie line that extends outside the solar facility site would traverse approximately 198.8 acres of cultivated agricultural lands—specifically, the 82 acres of orchard, 35.8 acres of irrigated cropland, 23.3 acres of non-irrigated cropland, and 57.7 acres of fallow.

Open Desert/Fallow Agriculture: These areas are open, sparsely vegetated landscapes that are not developed or actively cultivated for agriculture. Approximately 9 percent of the solar facility site consists of creosote bush scrub, desert dry wash woodland, disturbed tamarisk wind-row, and irrigation basin. The gen-tie line corridor consists primarily (43.6 percent) of Sonoran creosote bush scrub (POWER, 2012). Several utility lines and maintenance roads run through or parallel the gen-tie line corridors. Additionally, the visual resources study area has been previously disturbed by off-road vehicle use, trash dumping, and historic use for military training during World War II.

Residential and Commercial Development: These areas have a wide variety of architectural styles and development patterns, with secondary structures such as garages and barns, or occasional commercial operations. Palo Verde College, which consists of a campus of several buildings, associated parking areas, and landscaped spaces, is located to the east. Several residential developments are clustered around the Palo Verde Municipal Golf Course, which is also located to the west of the Project area. Along Hobson Way, south of the Project area, are a number of industrial and commercial businesses.

Blythe Airport: The airport landscape includes the runways, associated structures, and open areas within the airport complex. The Project boundary is approximately 3,000 feet from Blythe Airport's Runway 17.

Electrical Facilities: Electrical facilities in the Project vicinity include power plants, substations, and transmission and distribution lines; these are illustrated in Figure 2-1, *Existing and Planned Electrical Facilities*. The Project area is north of the Blythe Energy Center, a 507 MW natural gas-fired facility, which includes the Buck Substation. The Blythe Substation is located south of the solar facility site, just north of Hobson Way. There are several high-voltage transmission lines (161 kV and 230 kV) in the Project vicinity. An existing 161 kV transmission line would traverse the middle of the solar facility site. Portions of the proposed gen-tie line would parallel existing 161 kV and 230 kV transmission lines. The Blythe Solar Project is an existing 21 MW utility-scale photovoltaic (PV) solar array that is approximately 3.5 miles from the proposed solar facility site and adjacent to the proposed 230 kV gen-tie line. There is a small existing solar array located near Palo Verde College and approximately 0.6 mile from the Project area. The proposed gen-tie line would be co-located with other existing and proposed transmission lines through private and BLM-managed-lands. The portion of the Project gen-tie line that would cross BLM lands would be located within the California Desert Conservation Area's (CDCA's) Multiple-Use Class M. Multiple-Use Class M allows energy and utility development (BLM, 1980). The gen-tie would also be within BLM's designated Utility Corridor K and Section 368 Federal Energy Corridor 30-52, which overlap (see Project Description Figure 2-3, *BLM Designated Utility Corridors*).

Transportation Corridors: I-10 is the nearest freeway to the solar facility site and gen-tie lines. It provides regional east/west travel throughout the state, beginning in Los Angeles and continuing west past the California state border to Arizona and beyond. In the vicinity of the Project area, it has two lanes in each direction. Neighbours Boulevard provides a full interchange with this freeway. The local roadway facilities in the vicinity of the Project area include Neighbours Boulevard, Riverside Drive, Hobson Way, and Buck Boulevard. See Section 3.16, *Traffic and Transportation*, for more information.

Scenic Value

Scenic value is a measure of the visual appeal of an area created by the features of the landscape, including both natural landscape features (landform, vegetation, water, color, adjacent scenery, and scarcity) and human-made features (roads, structures, and agriculture). The general scenic

value of the landscape was assessed based on criteria including distinctiveness, contrast, variety, harmony, and balance.

Areas that have outstanding diversity or interest; that have landform, water, and vegetation features that are distinctive or unique in relation to the surrounding region; and that contain considerable variety in form, line, color, and texture have high scenic value.

Areas that have minimal diversity or interest; that have landscapes with limited variation in form, line, color, or texture in the context of the surrounding region; and that contain cultural modifications (e.g., substations, transmission lines, other cultural modifications) that are highly noticeable have low scenic value.

While all lands have scenic value, areas with the most variety and most harmonious composition have the greatest scenic value. The scenic quality of the Project area and the visual resources study area was assessed as being average or common to the region. The relatively flat desert landscape, with its sparse vegetation cover, has a low level of variety and distinctiveness and a limited color palette that is common to the region. Agricultural fields and groves constitute modifications to the natural landscape, but add vibrant greens and some visual variety to the landscape. Additional cultural modifications in the visual resources study area that are discordant with the natural desert landscape include existing transmission lines and other electrical facilities, the Blythe Energy Center, the Blythe Solar Project, and the Blythe Airport, local roads and freeways such as I-10, as well as residential development and commercial facilities associated with the City of Blythe on the west end of the visual resources study area.

The BLM Visual Resource Management (VRM) System's Visual Resource Inventory scenic quality rating system, described in the BLM Manual H-8410-1 Visual Resource Inventory (BLM, 1986a), uses the criteria of distinctiveness, contrast, variety, harmony, and balance to assess scenic value and assigns a Scenic Quality Class of A (the highest), B, or C (common to the region). Scenic quality was considered in the assessment of the gen-tie line corridor where it would traverse BLM-managed lands.

Potentially Affected Viewers and Sensitive Viewpoints

Accepted visual assessment methods, including those adopted by federal agencies, establish sensitivity levels as a measure of public concern for changes to scenic quality (FHWA, 1988). Viewer sensitivity (typically divided into categories of high, moderate, and low) is among the criteria employed for evaluating visual impacts and their degree of significance. The factors considered in assigning a sensitivity level include viewer activity (and viewers' expectations as influenced by their activity), view frequency and duration, viewing distance, adjacent land use, types of individuals and groups of viewers, and special management or planning designation, as described above.

When viewing the same landscape, people may have different responses to that landscape and any proposed visual changes, based upon their values, familiarity, concern, or expectations for that landscape and its scenic quality. Because each person's attachment to and value for a

particular landscape is unique, visual changes to that landscape inherently affect viewers differently.

Nonetheless, research on the subject suggests that certain activities tend to heighten viewer awareness of visual and scenic resources, while other activities tend to be distracting. For example, recreational activities tend to favor attention to scenery while working at a construction site does not. In general, the degree of visual impact tends to be more substantial where the sensitivity of affected viewers is highest.

The visual sensitivity of a landscape is also affected by the viewing distances at which it is seen. The same feature of a project can be perceived differently by people depending on the distance between the observer and the viewed object. When a viewer is closer to a viewed object in the landscape, more detail can be seen, and there is greater potential influence of the object on visual quality because of its form or scale (relative size of the object in relation to the viewer). When the same viewed object is viewed at background distances, details may be imperceptible but overall forms of terrain and vegetation are evident, and the horizon and skyline are dominant. In the middle ground, some detail is evident in the foreground and landscape elements are seen in context with landforms and vegetation patterns in the background.

The visual sensitivity of a landscape also is affected by the travel speed at which a person is viewing the landscape (high speeds on a highway, low speeds on a hiking trail, or stationary at a particular location). The same levels of sensitivity apply in this case as with close-up and further away views—views from cars at high speeds would be less sensitive to changes than views at low speeds because more details can be drawn from the landscape at lower speeds.

Potentially affected viewers within the study area were identified from investigation of agency websites, geographic information system (GIS) shapefiles, aerial photo interpretation, and land use data and include viewers within residential areas, developed recreation areas, and transportation corridors. Viewing context and visual sensitivity level were assessed using the criteria of concern level (expectations for maintaining the existing visual condition), duration of view (static, fixed views, or short-duration views), and use volume (number of individual viewers). Sensitive viewpoints containing potentially affected viewers that were identified within the visual resources study area include residential areas, Palo Verde College, and I-10, Nicholls Warm Springs/Mesa Verde Community Park and the Palo Verde Municipal Golf Course. These sensitive viewpoints are described below.

Residential Areas

Residences generally have a low level of use (relatively few occupants), a high user attitude (high expectations for maintaining existing landscape conditions), and a long duration of view (recurring, potentially continuous views). The Project is proposed on the broad and relatively flat Palo Verde Mesa. Residences within 3 miles of the solar facility and gen-tie line are illustrated in **Figure 3.1-1**. Two residences located immediately north and south of the Project (APNs 821020018 and 821080021) would have views of the solar array. The majority of residences with views of the gen-tie line are located in the Nicholls Warm Springs/Mesa Verde subdivision south of the Blythe Airport and I-10. Residences located off Riverside Drive on the east edge of the

mesa, north of I-10, would be adjacent to the gen-tie line corridor. Residences on the Palo Verde Valley floor and outskirts of Blythe are scattered within the eastern half of the visual resources study area for the gen-tie line and outside the study area for the solar array. These residences would generally not have views of the Project because there is screening by the 30- to 50-foot bluff that descends to the Palo Verde Valley floor. Viewer sensitivity for residences would vary from low to high depending on surrounding topography, land uses, and proximity to specific Project components.

Palo Verde College

Palo Verde College has a moderate to high level of use; a moderate user attitude (students and employees spend the majority of their time focused on their activities indoors, but may occasionally focus on views of the landscape and may also view the landscape during leisure or recreational activities outdoors); and recurring, moderate- to long-duration views. Viewer sensitivity is considered moderate.

I-10

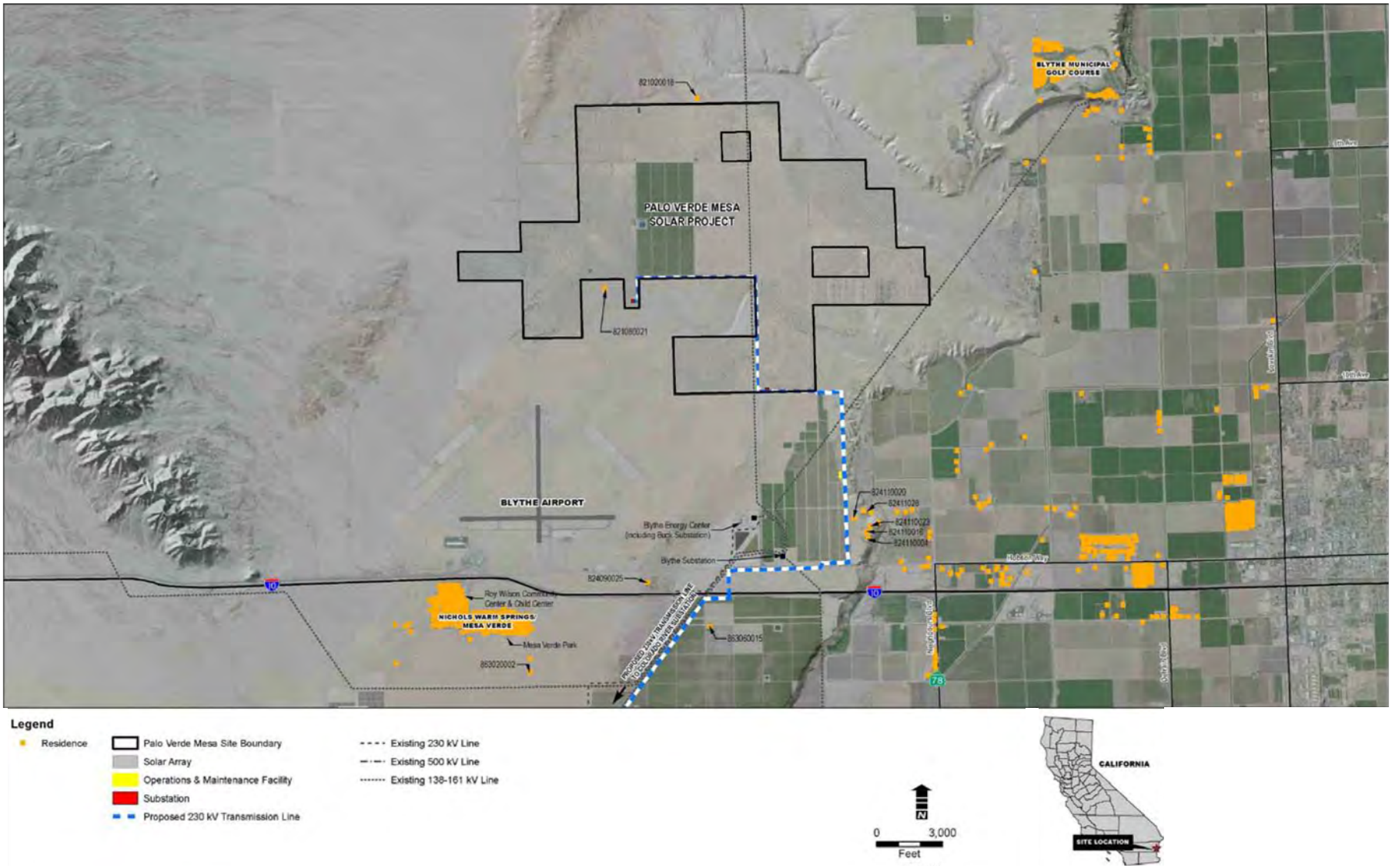
I-10 has a high level of use (many travelers); a high user attitude (expectations for maintaining existing landscape conditions are high because it is a Riverside County Eligible Scenic Corridor); and moderate or intermediate duration views (open highway views). Viewer sensitivity is considered moderate to high.

Nicholls Warm Springs/Mesa Verde Community Park

The park on the south side of the Nicholls Warm Springs/Mesa Verde subdivision has a low to moderate level of use as a small local park; a moderate user attitude for maintaining existing landscape conditions (users are engaged in recreational activities in a developed park); and moderate- to long-duration views. Viewer sensitivity is considered low to moderate.

Other Sensitive Viewpoints (Palo Verde Municipal Golf Course)

Palo Verde Municipal Golf Course is the closest recreation facility to the Project site. The golf course has a moderate level of use; a moderate user attitude (golfers are engaged in an outdoor recreational activity and may focus on views of the landscape, but generally do not have expectations for a natural, unaltered landscape since a golf course alters the landscape and typically accompanies other development); and moderate- to long-duration views. Because of its distance from the Project site (approximately 1.5 miles away) visibility of the site from this location is limited. Thus, viewer sensitivity is considered low to moderate.



SOURCE: POWER Engineers

Figure 3.1-1

Residences Within Three Miles of the Proposed Project

Visibility and Distance Zones

Distance zones, or visibility thresholds, for this Project were based on review of distance zones used by the BLM for visual resource inventory assessment (BLM Manual H-8410-1 Visual Resource Inventory) and previous studies in similar geographical, topographical, and environmental settings and reflect the scale of the objects being viewed. **Table 3.1-1** provides the visibility thresholds and distance zones used for the Project. Because the components of the solar facility would be much shorter than the 230 kV gen-tie line structures and would become indistinct at a shorter distance, the distance zones for the solar facility are composed of shorter distances than those used for the gen-tie line.

TABLE 3.1-1
VISIBILITY THRESHOLDS USED IN VISUAL ANALYSIS

	Project Component	
Visibility Threshold	**Solar Facility**	**230 kV Gen-tie Line**
Foreground	0 to 1,500 feet	500 feet to 0.5 mile
Middleground	1,500 feet to 0.5 mile	0.5 mile to 1.5 miles
Background	Beyond 0.5 mile	Beyond 1.5 miles

SOURCE: , 2012

Visibility was assessed from the viewpoints mapped for this study and identified as sensitive (i.e., residential areas, Palo Verde College, Palo Verde Municipal Golf Course, I-10, and Nicholls Warm Springs/Mesa Verde Community).

Existing Light and Glare

Based on the relatively undeveloped nature of the surrounding landscape, very little light is generated in or close to the Project area. The primary source of existing light and glare in the area is motor vehicles traveling on surrounding roadways. During daytime hours, roadways generate glare from the sun's glare off cars and paved surfaces. Likewise, at night, vehicle headlights on surrounding roadways generate light and glare. Other sources of light include residential homes, the Blythe Energy Center site, the Blythe Airport to alert aircraft of potential hazards in their flight path, and Palo Verde College.

3.1.2 Regulatory Setting

Federal

BLM Visual Resource Management System

BLM uses the VRM System to inventory visual resources (inventory of scenic quality, sensitivity levels, and distance zones), prescribe land use visual standards, and guide project design to meet the established visual standards on lands under its jurisdiction. Guidelines for applying the system are described in the BLM Departmental Manual Section 8400 et seq. VRM classes are assigned through Resource Management Plans (RMPs). The assignment of VRM classes is based on the

management decisions made in RMPs. The applicable RMP for the Project is the CDCA Plan. The CDCA Plan does not contain a Visual Resources Element and has not established VRM classes. Interim VRM Classifications are typically established when a project is proposed and there are no RMP- or Management Framework Plan-approved VRM Classifications. The portion of the Project's gen-tie line that would traverse BLM lands would be in an area of Interim VRM Class III, which was assigned to the area by the McCoy Solar Energy Project Final Environmental Impact Statement. The objectives of each VRM Classification are as follows:

VRM Class I. The objective is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

VRM Class II. The objective is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

VRM Class III. The objective is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate or lower. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

VRM Class IV. The objective is to provide for management activities, which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements in the predominant natural features of the characteristic landscape.

Federal Land Policy and Management Act and Federal Regulations Pertaining to Rights-of-Way

Section 102(a) of the Federal Land Policy and Management Act of 1976 states that "...the public lands are to be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." Section 103(c) identifies "scenic values" as one of the resources for which public land should be managed. Section 201(a) states, "the Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and their resources and other values (including scenic values)." Section 505(a) requires that "each ROW shall contain terms and conditions which will … minimize damage to the scenic and esthetic values."

CDCA Plan and the Northern and Eastern Colorado Desert Coordination Management Plan

The Recreation Element of the CDCA Plan specifies that VRM objectives and the contrast rating procedure be used to manage visual resources (BLM, 1980). VRM objectives provide the visual management standards for future projects and for rehabilitation of existing projects. Activities within the landscape are designed or evaluated using contrast ratings (BLM, 1986b).

Local

The Project would be subject to visual policies from the Riverside General Plan, the Palo Verde Valley Area Plan, and the City of Blythe General Plan.

Riverside County General Plan

The Riverside County General Plan (2015) is applicable to all unincorporated lands within Riverside County. The following are the countywide policies that seek to preserve visual quality; they are located in the Land Use Element, Multipurpose Open Space Element, and Circulation Element of the County General Plan.

Land Use Element (LU)

I-10 is not a State- or county-designated scenic highway; however, it has been identified by the County of Riverside in its Circulation Element as eligible for designation as a scenic corridor. The County has indicated in its General Plan Land Use Element that I-10 should be designated a scenic highway and has developed General Plan scenic corridor policies. These policies seek to maintain resources in corridors along scenic highways; these policies include:

> **Policy LU 4.1.** Require that new developments be located and designed to visually enhance, not degrade the character of the surrounding area through consideration of the following concepts:
>
> a. Compliance with the design standards of the appropriate area plan land use category.
>
> b. Require that structures be constructed in accordance with the requirements of Riverside County's zoning, building, and other pertinent codes and regulations.
>
> c. Require that an appropriate landscape plan be submitted and implemented for development projects subject to discretionary review…
>
> f. Incorporate water conservation techniques, such as groundwater recharge basins, use of porous pavement, drought tolerant landscaping, and water recycling, as appropriate…
>
> k. Locate site entries and storage bays to minimize conflicts with adjacent residential neighbor-hoods.
>
> l. Mitigate noise, odor, lighting, and other impacts on surrounding properties…
>
> o. Preserve natural features, such as unique natural terrain, arroyos, canyons, and other drainage ways, and native vegetation, wherever possible, particularly where they provide continuity with more extensive regional systems.

u. Recognize open space, including hillsides, arroyos, riparian areas, and other natural features as amenities that add community identity, beauty, recreational opportunities, and monetary value to adjacent developed areas.

Policy LU 7.4. Retain and enhance the integrity of existing residential, employment, agricultural, and open space areas by protecting them from encroachment of land uses that would result in impacts from noise, noxious fumes, glare, shadowing, and traffic.

Policy LU 9.1. Provide for permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, watercourses including arroyos and canyons, and scenic and recreational values.

Policy LU 14.1. Preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public.

Policy LU 14.2. Incorporate riding, hiking, and bicycle trails and other compatible public recreational facilities within scenic corridors.

Policy LU 14.3. Ensure that the design and appearance of new landscaping, structures, equipment, signs or grading within Designated and Eligible State and County Scenic Highways corridors are compatible with the surrounding scenic setting or environment.

Policy LU 14.4. Maintain at least a 50-foot setback from the edge of the right-of-way for new development adjacent to Designated and Eligible State and County Scenic Highways.

Policy LU 14.5. Requires "new or relocated electric or communication distribution lines, which would be visible from Designated and Eligible State and County Scenic Highways, to be placed underground."

Policy LU 14.6. Prohibit off-site outdoor advertising displays that are visible from Designated and Eligible State and County Scenic Highways.

Policy LU 14.7. Require that the size, height, and type of on-premise signs visible from Designated and Eligible State and County Scenic Highways be the minimum necessary for identification. The design, materials, color, and location of the signs shall blend with the environment, utilizing natural materials where possible.

Policy LU 14.8. Avoid the blocking of public views by solid walls.

Policy LU 30.8. Require that industrial development be designed to consider the surroundings and visually enhance, not degrade the character of the surrounding area.

Policy LU-31.5. Requires that "public facilities be designed to consider their surroundings and visually enhance, not degrade the character of the surrounding area."

Multipurpose Open Space (OS) Element

Policy OS-20.2 Prevent unnecessary extension of public facilities, services, and utilities, for urban uses, into Open Space-Conservation designated areas.

Policy OS-21.1. Identify and conserve the skylines, view corridors, and outstanding scenic vistas within Riverside County.

Circulation Element

Policies that seek to protect and maintain resources along scenic highways are incorporated into the Circulation Element; these include the following:

Policy C-19.1. Preserve scenic routes that have exceptional or unique visual features in accordance with Caltrans' [the California Department of Transportation's] Scenic Highways Plan.

Policy C-25.2. Locate new and relocated utilities underground when possible and feasible. All remaining utilities shall be located or screened in a manner that minimizes their visibility by the public

Palo Verde Valley Area Plan

Palo Verde Valley Area Plan (2015) policies that address visual quality are located in the Local Circulation Policies, Scenic Highways; these include the following:

Policy PVVAP 10.1. Protect the scenic highways in the Palo Verde Valley planning area from change that would diminish the aesthetic value of adjacent properties in accordance with the Scenic Corridors sections of the General Plan Land Use, Multipurpose Open Space, and Circulation Elements.

Policy PVVAP 10.2. Encourage the designation of Interstate 10 and US Highway 95 as eligible and subsequently Official Scenic Highway sign accordance with the California State Scenic Highway Program.

City of Blythe General Plan

City policies in the City of Blythe General Plan 2025 (2007) that seek to preserve visual quality are located in the Land Use Element, Open Space and Conservation Element, and Guiding Policies of the City General Plan. Among them, the following policies are applicable to the Project:

Open Space and Conservation Element

Policy 1: Maintain hillsides and visible agricultural lands as open space for resource conservation and preservation of views.

Policy 3: Maintain existing views of the Mesa and Colorado River from roadways and public uses and other rights-of-way on the valley floor whenever feasible.

3.1.3 Methodology for Analysis

In general, the potential aesthetic, light, and glare impacts associated with projects are evaluated on a qualitative basis. Project impacts were compared to existing visual conditions in light of local policies for protection of visual resources, comparing the existing views from sensitive viewpoints to views that would occur during construction, operation, and decommissioning of the Project. The assessment of aesthetic resources included a review of the proposed Project development plans, regional and local regulatory guidelines, and current land use data. Baseline environmental conditions were established by reviewing the existing landscape character and the overall scenic value of the Project area using aerial photography interpretation and documentation of regional physiography; identifying sensitive viewpoints; determining distance zones and visibility of the proposed Project from sensitive viewpoints; and selecting key observation points (KOPs) from the sensitive viewpoints for more detailed study and development of photo simulations. The BLM's policies and guidelines for managing visual resources were reviewed for the BLM lands that would be traversed by the proposed gen-tie line.

The criteria to assess the significance of visual impacts resulting from the Project take into consideration the factors described further in this section (visibility from sensitive viewpoints, distance zones, the level of visual contrast of the Project with the existing landscape, and resulting visual impact levels), as well as federal, State, and local policies and guidelines pertaining to visual resources.

Selection of Key Observation Points

KOPs were selected from the identified sensitive viewpoints that are representative of views of the Project that would occur during construction, operation, maintenance, and decommissioning. Five representative KOPs were selected from the sensitive viewpoints that would have views of the Project. The KOPs were selected to illustrate the various types of views of the Project that may be impacted during Project construction, operation, maintenance, and decommissioning and to illustrate visual contrast of the Project with the existing landscape that would result from its development. The locations are listed below and illustrated in **Figure 3.1-2**, ***Map of KOP Point Locations and Camera Views***.

KOP 1: Looking southwest from residential area along 5th Avenue[1] (provides views of the proposed solar arrays where the highest level of impacts for residents would occur).

KOP 2: Looking southwest from Palo Verde College.

KOP 3: Looking southwest from Palo Verde Municipal Golf Course.

KOP 4: Looking west from West Riverside Drive and South Defrain Boulevard (agricultural area on outskirts of Blythe below the mesa).

[1] The aesthetics appendix incorrectly identified this KOP as being from 7th Avenue; however, the residence is located on 5th Avenue as is the KOP Point Location.

KOP 5: Looking east from I-10 (provides views of the proposed gen-tie line where the highest level of impacts for viewers traveling along I-10 would occur).

For KOP 1 though KOP 4, photographs were taken with a Canon 5D Mark II camera fitted with a fixed 50mm lens. The KOP 5 photograph was taken with a Canon DSLR Rebel XSI 12-megapixel digital camera fitted with an 18mm–55mm zoom lens. The photos were taken with an approximate focal length of 50mm to represent approximate human-viewing conditions. The camera was held at eye level (approximately 5 feet from the ground). The date, time of day, global positioning system (GPS) coordinates (latitude/longitude), and weather conditions were documented for each photo location.

The KOPs selected illustrate views of the solar array because the public concerns regarding aesthetic impacts of the Project on the scenic value of the landscape and to viewers are primarily focused on the solar array. Additionally, the gen-tie line crossing would be within view of travelers along the I-10 freeway and thus is also included as a KOP.

As described in Section 3.15, *Recreation*, there are a number of recreational areas within the Project vicinity; however, because of the distance, visibility of the Project from these areas is limited, difficult to perceive, or non-existent. For example, the Nicholls Warm Springs/Mesa Verde Community Park is located approximately 0.7 mile from the gen-tie line but, because of distance and siting of Project components, the park would not provide views of the solar arrays and therefore was not selected as a KOP. To analyze visual impacts to recreationists, the Palo Verde Municipal Golf Course was included as a KOP because (although it is 1.5 miles away from the Project) it is closer to the proposed solar array site than the other recreational facilities.

Simulation Preparation

Visual simulations of the Project from the identified KOPs were prepared to provide a comparison of pre- and post-Project conditions as well as context for qualitative description of the aesthetic changes that would result from operation of the Project. Operation of the Project is the stage depicted because it will present the longest-lasting, most prominent impacts. Digital imaging, GIS, computer-aided design (CAD), and GPS software assisted in the development of the photo-simulations. The software used in the photo-simulations included:

Autocad 2009: Used for modeling the site and facilities

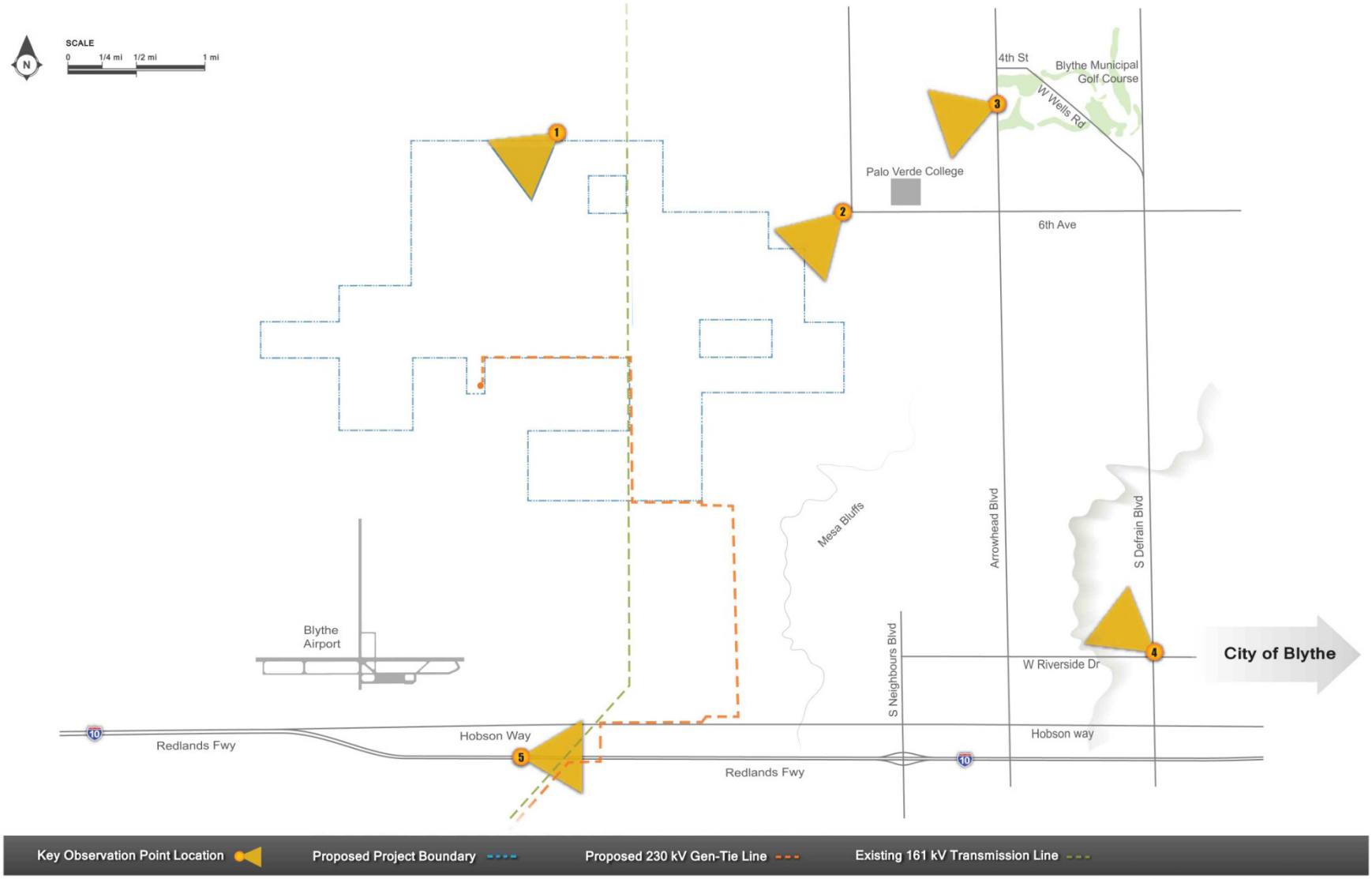
3D Studio 2009: Used for lighting, materials, and rendering

Adobe Photoshop CS3: Used for photo manipulation and merging

Bentley Microstation v8.5: Used for modeling of the site, facilities, and transmission structures; photo-matching; material patterning; and rendering

Bentley Inroads v8.5: Used for digital terrain mapping and modeling

ArcView: Used for geographic information Project data mapping



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.1-2
Map of KOP Locations
and Camera Views

The photographs taken from each KOP were matched with Project terrain models developed using Microstation. Computer models of the substation and existing transmission lines were introduced into the terrain model based on preliminary facility layouts developed in CAD and ArcView. The final image is a composite of the three-dimensional (3D) structure modeling and the original photograph. This process ensures that spatial relationships, perspective, proportions, and similar attributes are accurate and match existing landscape conditions. See Section 3.1.6, *Impact Analysis,* for more information.

Rating Visual Contrast

Visual contrast is determined by comparing features of the proposed Project with the major features in the existing landscape using the basic design elements of form, line, color, and texture. Common elements that are used to determine the overall level of visual contrast (or change) related to solar generation facilities include changes and contrast in landform, vegetation, and structures. These contrast elements help determine the level of overall visual change that would occur to the landscape with implementation of the Project and are described below.

Landform Contrast

Landform contrast is the contrast that ground-disturbing activities would create with the existing landscape. Soil exposure and grading, blading roads, and other activities that alter the ground or landform create changes in color, shape, and slope that can contrast with the existing landscape. For example, depending on baseline conditions, even minimal grading on a flat site can expose soil and create a weak level of color contrast.

Vegetation Contrast

Vegetation contrast is the contrast that vegetation clearing would create with the vegetation in the existing landscape (the Project area and the immediately surrounding area). Vegetation contrast considers just the change in vegetation and does not consider structures that are part of the Project. Depending on baseline conditions, removal of or damage to sparse vegetation or vegetation that is low-growing and/or has a high level of recoverability, such as agricultural land, disturbed bare ground, and grasslands, would typically result in a weak level of contrast with the existing landscape. Removal of low woody vegetation (brush or bushes) would typically result in a moderate level of contrast with the existing landscape and removal of overstory vegetation (trees) would typically result in a strong level of contrast with the existing landscape.

Structure Contrast

Structure contrast is the contrast of the built or structural components of a project with the existing landscape. A strong level of contrast typically results from building a project where no similar structures of a similar scale to the project structures are nearby (or parallel to linear structures, such as transmission lines). A moderate level of contrast typically exists when structures are near similar but smaller existing structures. A weak level of contrast typically exists when structures are near similar structures of a similar or larger scale.

Levels of Overall Visual Change

The landscape of the Project area and the immediately surrounding area are considered to be the existing landscape. Levels ranging from none to strong are used to describe the levels of visual contrast (or overall visual change) between the Project and the existing landscape and are defined as:

None –The element contrast is not visible or perceived;

Weak –The element contrast can be seen but does not attract attention;

Moderate –The element contrast begins to attract attention and begins to dominate the characteristic landscape; and

Strong – The element contrast demands the viewer's attention and cannot be overlooked.

A visual contrast assessment system was used to identify levels of overall visual change between implementation of the Project and the existing landscape (and scenic value) as viewed from sensitive viewpoints. Specifically, the visual contrast between implementation of the Project and the surrounding landscape was assessed to determine its effect on the existing scenic value and views from the identified KOPs. This rating system has been applied to the assessment of potential impacts for the Project once the facility is constructed and in operation. The BLM quantitative methods of the visual contrast assessment rating system were not applied to construction impacts, due to the relatively short duration of construction activities. However, a qualitative assessment of potential construction-related visual impacts was conducted. The scenic value of the existing landscape and viewer sensitivity was compared to the overall visual change to the landscape that would result from construction, operation, maintenance, and decommissioning of the Project. The overall visual change was then used to determine the level of impact significance for each KOP. A significant visual impact typically results from high impacts (high overall existing visual sensitivity with close views of the Project where strong overall visual changes occur between the Project and the existing landscape).

Additional parameters such as dominance of the Project in a view and blockage of views to aesthetic features from the Project, compared to the existing landscape, were also considered and are described below.

Project Dominance

Visual dominance is a measure of a project feature's apparent size relative to other visible landscape features in the viewshed, or seen area. A feature's dominance is affected by its relative location in the viewshed and the distance between the viewer and feature. The level of dominance can range from subordinate to dominant.

View Blockage or Impairment

View blockage or impairment is a measure of the degree to which a project's features would obstruct or block views to aesthetic features due to its position and/or scale. Blockage of aesthetic landscape features or views can cause adverse visual impacts, particularly in instances where scenic or view orientations are important to the use, value, or function of the land use.

Rating Visual Impact Significance

Overall visual impacts reflect the composite visual changes to both the directly affected landscape and from KOPs. The visual impact levels referenced in this EIR indicate the relative degree of overall change (contrast) to the visual environment that the Project would create, considering visual sensitivity, viewer distance, visual contrast, view blockage, and project dominance. **Table 3.1-2**, shows the inter-relationship of overall visual sensitivity and overall visual change. Levels of significance are defined as follows:

Not Significant impacts may or may not be perceptible but are considered minor in the context of existing landscape characteristics and view opportunity.

Adverse but Not Significant Impacts are perceived as negative but do not exceed environmental thresholds.

Adverse and Potentially Significant Impacts are perceived as negative and may exceed environmental thresholds depending on project- and site-specific circumstances.

Significant Impacts are perceived as negative and exceed environmental thresholds; however with feasible mitigation may be reduced to less-than-significant levels or avoided altogether. Without mitigation or avoidance measures, significant impacts would exceed environmental thresholds.

TABLE 3.1-2
GUIDELINES FOR DETERMINING VISUAL IMPACT SIGNIFICANCE

	Overall Visual Change				
Overall Visual Sensitivity	**None to Low**	**Low to Moderate**	**Moderate**	**Moderate to High**	**High**
Low	Not Significant	Not Significant	Adverse, but Not Significant	Adverse, but Not Significant	Adverse, but Not Significant
Low to Moderate	Not Significant	Adverse, but Not Significant	Adverse, but Not Significant	Adverse, but Not Significant	Adverse, but Not Significant
Moderate	Adverse, but Not Significant	Adverse, but Not Significant	Adverse, but Not Significant	Adverse and Potentially Significant	Adverse and Potentially Significant
Moderate to High	Adverse, but Not Significant	Adverse, but Not Significant	Adverse and Potentially Significant	Adverse and Potentially Significant	Significant
High	Adverse, but Not Significant	Adverse and Potentially Significant	Adverse and Potentially Significant	Significant	Significant

Interim VRM Classification

As described in Chapter 2, *Project Description*, a portion of the gen-tie line would be located on BLM-managed lands. Levels of contrast between the gen-tie line and the existing landscape were analyzed using the methodology described above and were also compared to the Interim VRM Classification assigned to the visual resources study area by the McCoy Solar Energy Project EIS to determine if the Project would result in a substantial change in the BLM's ability to achieve

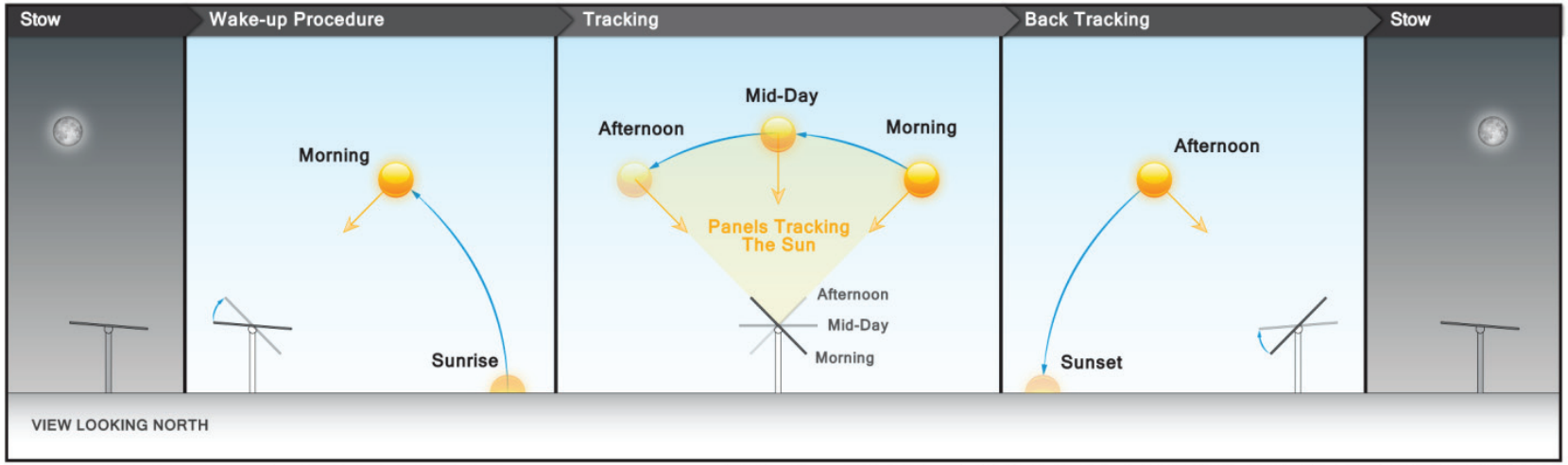
visual resource management objectives. The BLM requires that the VRM system be used for analyzing visual resources on BLM-administered lands. The VRM system evaluates both the existing physical environmental setting and the anticipated visual change introduced by the proposed Project. Although BLM-managed lands are not subject to CEQA, the CEQA Guidelines were used to assess the significance of environmental impacts related to the gen-tie line based on an evaluation using the BLM's VRM system (see Section 3.1.5, *CEQA Significance Criteria*).

Light and Glare

PV panels are designed to absorb approximately 70 percent of solar energy and convert it directly to electricity. The glare and reflectance levels from a given PV system are decisively lower than the glare and reflectance generated by standard glass and other common reflective surfaces, such as glass and metal in rural environments and water (SunPower, 2010). A Glare Study (POWER, 2013) was prepared for the Project which identified the potential for glare and light, specifically from the solar arrays, to affect the KOPs and other sensitive viewpoints. The lowest angle (+7.59 degrees relative to the horizon, which would occur during the end and beginning of day during backtracking cycles) of incidence of glare relative to the horizon was determined and compared with the viewing height and location of ground-based viewers (see Appendix B of this EIR). The Glare Study was also used to evaluate potential safety impacts to airport operations; that analysis can be found in Section 3.8, *Hazards and Hazardous Materials.*

The following methodology was used to determine glare impacts:

1. Identify Potential Glare Issues – the landing approach for all four runway utilized at the Blythe Municipal Airport were studied. Additionally, the proposed lengthened section of Runway 8, and any potential glare issues that may present themselves were studied.
2. Characterize Glare Behavior – At each landing approach, 3D simulations were developed to accurately create and study glare based on the behavior of the single axis solar tracker (se *Section 3.2*). 3D elements within the digital scene included terrain models, cone of vision runway global positioning system (GPS) coordinates, 3D solar equipment and a 3D solar system. This information was assembled in a 3D computer program to create an accurate virtual representation of the Project and surrounding area. Specifically, the 3D Model incorporated the following:
    - 3D Terrain Models – RRG provided 5-foot contours of the Project site. This information was converted into a 3D surface model and used for placement and elevation of the proposed solar arrays.
    - Runway GPS Coordinates – GPS coordinates for each of the runways provided by the ALUC's.
    - Solar Sun System – The 3D computer simulations incorporated an accurate, solar algorithm based on the latitude and longitude of the actual Project. All calculations were performed using 3D software, designed for calculating and animating solar cycles. Sun calculations and results were based on hours of operational daylight and solar clocks.
3. Evaluate – Visual analysts studied the 3D simulations under different lighting conditions and at different times of the year. These simulations were used to evaluate and document when glare may be visible along the various landing approaches.



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.1-3

Single Axis Solar Tracker Positioning

3.1.4 Applicable Best Management Practices

As part of the Project, the following BMPs would minimize the environmental impacts to aesthetics, sensitive viewpoints, and light and glare. The full BMPs have been detailed below and in the following pages (see also Table 2-4 in Chapter 2, *Project Description*) and further referenced (by number) within the impact discussion.

BMP-3 **Fugitive Dust Abatement Plan.** As required by the Mojave Desert Air Quality Management District Rule 403, a Fugitive Dust Abatement Plan would be prepared to address fugitive dust emissions during Project construction, operation, maintenance, and decommissioning. The plan would include measures to minimize fugitive dust emissions from wrecking, excavation, grading, clearing of land, and solid waste disposal operations, and would take every reasonable precaution to prevent visible particulate matter from being deposited upon public roadways as a direct result of operations. During construction, all unpaved roads, disturbed areas (e.g., areas of scraping, excavation, backfilling, grading, and compacting), and loose materials generated during Project construction activities would be watered as frequently as necessary to minimize fugitive dust generation. However, the amount of water will be minimized each time to prevent temporarily ponding water that may occur as a result of the fugitive dust plan. In water-deprived locations, water spraying would be limited to active disturbance areas only, and non-water-based dust control measures would be implemented in areas with intermittent use or use that is not heavy, such as stockpiles or access roads. The dust suppression measures would consider the sensitivity of wildlife to the windborne dispersal of fugitive dust containing dust suppressants and the potential impact on future reclamation. The Dust Abatement Plan includes three specific measures (BMP 3.1 through BMP 3.3) as listed below:

BMP-3.1: The following signage shall be erected not later than the commencement of construction. A minimum 48 inch high by 96 inch wide sign containing the following shall be located within 50 feet of each Project site entrance, meeting the specified minimum text height, black text on white background, on one inch A/C laminated plywood board, with the lower edge between six and seven feet above grade, with the contact name of a responsible official for the site and a local or toll-free number that is accessible 24 hours per day:

[Site Name]	{four inch text}
[Project Name/Project Number]	{four inch text}
IF YOU SEE DUST COMING FROM	{four inch text}
THIS PROJECT CALL:	{four inch text}
[Contact Name], PHONE NUMBER XXX-XXXX	{six inch text}
If you do not receive a response, Please Call	{three inch text}
The MDAQMD at 1-800-635-4617	{three inch text}

BMP-3.2: For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization, durable polymeric soil stabilizers, or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from sand/fines deposits.

BMP-3.3: All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The owner/ operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule or project-specific biological mitigation prohibiting wind fencing.

BMP-6 **Lighting Plan.** A lighting plan would be prepared that documents how lighting will be designed and installed to minimize night-sky impacts during facility construction and operations. Lighting for facilities will not exceed the minimum number of lights and brightness required for safety and security and will not cause excessive reflected glare. Light fixtures will not spill light beyond the Project boundary. Where feasible, vehicle-mounted lights will be used for night maintenance activities. Wherever feasible, consistent with safety and security, lighting will be kept off when not in use. The lighting plan will include a process for promptly addressing complaints about lighting.

BMP-7 **Trash Abatement Plan.** A Trash Abatement Plan shall be developed that focuses on containing trash and food in closed and secure sealable containers, with lids that latch, and removing them periodically to reduce their attractiveness to opportunistic species, such as common ravens, coyotes, and feral dogs, that could serve as predators of native wildlife and special-status animals. The Plan would also establish a regular litter pick-up procedure within and around the perimeter of the Project area, and removal of construction-related trash containers from the Project area when construction is complete.

BMP-8 **Cleanup and restoration.** Upon completion of construction activities, all unused materials and equipment shall be removed from the Project area. All construction equipment and refuse including, but not limited to, wrapping material, cables, cords, wire, boxes, rope, broken equipment parts, twine, strapping, buckets, and metal or plastic containers shall be removed from the site and disposed of properly after completion of construction. Any unused or leftover hazardous products shall be properly disposed of offsite.

BMP-10 **Integrated Weed Management Plan.** In compliance with the Federal Noxious Weed Act and the Plant Protection Act, a Project-specific integrated weed management plan for the control of noxious weeds and invasive plant species would be prepared. The plan would identify presence, location, and abundance of weed species in the Project area and surrounding area adjacent to the Project, as well as identify suppression and containment measures to prevent the spread of weed species and introduction of weed species. Prevention techniques would include: limiting disturbance areas during construction to the minimum required to

perform work; limiting ingress and egress to defined routes; maintaining vehicle wash and inspection stations; and closely monitoring the types of materials brought on site to minimize the potential for weed introduction. During operations, noxious and invasive weed management will be incorporated as a part of mandatory site training for groundskeepers and maintenance personnel. Training will include weed identification and the impacts on agriculture, wildlife, and fire frequencies. Training will also cover the importance of preventing the spread of noxious weeds and of controlling the proliferation of existing weeds.

BMP-11 **Project structures and building surfaces.** Project facilities would be sited to ensure that there is adequate space (i.e., setbacks of no less than 100 feet) between solar facilities and natural washes. These setbacks would preserve and maintain the natural washes' hydrological functions. The color and finish of Project structure and building surfaces that are visible to the public will be designed to ensure minimal visual intrusion, contrast, and glare. Grouped structures will be painted the same color to reduce visual complexity and color contrast. Solar panel backs will be color-treated to reduce visual contrast with the landscape setting. Materials, coatings, or paints having little or no reflectivity will be used wherever possible. The visual color contrast of graveled surfaces will be reduced with approved color treatment practices.

BMP-12 **Gen-tie lines.** Gen-tie line support structures and other facility structures shall be designed in compliance with current standards and practices to discourage their use by raptors for perching or nesting (e.g., by use of anti-perching devices). This design would also reduce the potential for increased predation of special-status species, such as the desert tortoise. Mechanisms to visually warn birds (permanent markers or bird flight diverters) shall be placed on gen-tie lines at regular intervals to prevent birds from colliding with the lines (APLIC, 2006; USFWS, 2010). To the extent practicable, the use of guy wires shall be avoided because they pose a collision hazard for birds and bats. Necessary guy wires shall be clearly marked with bird flight diverters to reduce the probability of collision. Shield wires shall be marked with devices that have been scientifically tested and found to significantly reduce the potential for bird collisions. Gen-tie lines shall utilize non-specular conductors and non-reflective coatings on insulators.

BMP-13 **Ground and surface disturbance.** Construction boundaries would be clearly delineated to minimize areas of ground and surface disturbance. Ground-disturbing activities shall be minimized, especially during the rainy season. To the maximum extent possible, construction-related activities (such as vehicle and foot traffic) would avoid areas with intact biological soil crusts. For cases in which impacts cannot be avoided, soil crusts would be salvaged and restored on the basis of recommendations by the County of Riverside and BLM once construction has been completed. Existing rocks, vegetation, and drainage patterns shall be preserved to the maximum extent possible. No paint or permanent discoloring agents shall be applied to rocks or vegetation (to indicate surveyor construction activity limits or for any other purpose). All stakes and flagging shall be removed

from the construction area and disposed of in an approved facility. Where feasible, Brush-beating, mowing, or use of protective surface matting rather than removing vegetation shall be employed. Clearing and disturbing of sensitive areas (e.g., steep slopes and natural drainages) and other areas shall be avoided outside the construction zone. Surface disturbance would be minimized by utilizing undulating surface disturbance edges; stripping, salvaging, and replacing topsoil; using contoured grading; controlling erosion; using dust suppression techniques; and restoring exposed soils to their original contour and vegetation.

3.1.5 CEQA Significance Criteria

- The significance criteria for aesthetics listed in the CEQA Environmental Checklist, Appendix G of the State CEQA Guidelines, were used to assess the significance of visual impacts resulting from the Project. These thresholds indicate that a project could have potentially significant impact if it would: Have a substantial adverse effect on a scenic vista (see Effects Found Not to Be Significant).
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway (see Impact AES-1).
- Substantially degrade the existing visual character or quality of the site and its surroundings (see Impact AES-2).
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area (see Impact AES-3).

The County of Riverside's Environmental Assessment Form includes additional significance criteria, which were also used in the analysis. The additional criteria indicate that a project could have potentially significant impacts if it would:

- Result in the creation of an aesthetically offensive site open to public view (see Impact AES-4).
- Interfere with nighttime use of the Mt. Palomar Observatory, as protected through Riverside County Ordinance No. 655 (see Effects Found Not to Be Significant).
- Expose residential property to unacceptable light levels (see Impact AES-5).

Effects Found Not to Be Significant

It has been determined that the PVMSP would not result in impacts to the following significance criteria.

- Have a substantial adverse effect on a scenic vista.

The Project would not be located in a designated scenic vista and neither the Riverside County General Plan nor the Palo Verde Valley Area Plan has designated the Project area as an important visual resource. No scenic vistas were identified in the visual resources study area, therefore no

impacts would occur. Impacts to views from I-10, which has been identified by the County of Riverside as eligible for designation as a scenic corridor, are addressed in Impact AES-1.

- Interfere with nighttime use of the Mt. Palomar Observatory, as protected through Riverside County Ordinance No. 655.

The proposed Project area is located over 100 miles east of the Mt. Palomar Observatory, which far exceeds the distance to the Observatory's areas of sensitivity (Zone A at a 15-mile radius and Zone B at a 45-mile radius from the Observatory). The Project is expected to use minimal nighttime lighting during construction and operation; however, such uses would be limited and, based on the Project area's distance to the Observatory, would result in no impacts to astronomical observation and research at the Mt. Palomar Observatory.

3.1.6 Impact Analysis

As described in Section 3.1.1, Environmental Setting, the Project would be located in an area of agricultural fields (non-irrigated wheat), citrus groves, and desert scrub and washes containing visual character and a scenic value of Class C, or common to the area. As described in Section 3.1.3, *Methodology for Analysis*, the visual impact levels referenced in this section indicate the overall visual change (contrast) to the existing landscape and scenic value that the Project would create, considering visual sensitivity, viewer distance, visual contrast, view blockage, and project dominance. The level of impact significance for KOPs was assessed by comparing the existing the overall visual change for each KOP, to the proposed changes to the scenic value of the landscape that would result from construction, operation, maintenance, and decommissioning of the Project. As described in *Section 3.1.5* and depicted in *Figure 3.1-1*, five KOPs were selected from the identified sensitive viewpoints and corridors; these KOPs are representative of views of the Project that would occur during construction, operation, maintenance, and decommissioning. A photo simulation was developed for each KOP; the resulting simulations are provided in *Figure 3.1-4* (KOP 1), *Figure 3.1-5* (KOP 2), *Figure 3.1-6* (KOP 3), *Figure 3.1-7* (KOP 4) and *Figure 3.1-8* (KOP 5). The existing visual setting for each KOP is described below and in the following pages; an analysis of proposed visual changes found in the simulations are described under Impact AES-2. The analysis described in this section determined that the selected KOPs captures the various types of views of the Project that might be impacted during construction, operation, maintenance, and decommissioning.

Existing View from KOP 1

Proposed View from KOP 1

SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.1-4
Existing and Proposed Views from KOP 1
(Residence on Mesa)

Existing View from KOP 2

Proposed View from KOP 2

SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.1-5
Existing and Proposed Views from KOP 2
(Palo Verde College)

Existing View from KOP 3

Proposed View from KOP 3

SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.1-6
Existing and Proposed Views from KOP 3
(Palo Verde Municipal Golf Course)

Existing View from KOP 4

Proposed View from KOP 4

SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.1-7

Existing and Proposed Views from KOP 4
(from West Riverside Drive and South Defrain Boulevard

Existing View from KOP 5

Proposed View from KOP 5

SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.1-8
Existing and Proposed Views from KOP 5
(Interstate 10 Freeway)

KOP 1: View Southwest from Residential Area

KOP 1 is representative of the residences adjacent to the Project within the Palo Verde Mesa. KOP 1 is located at a residence (APN 821020018) north of the proposed solar array site on the mesa. The photograph was taken looking southwest. Foreground and middleground views include non-irrigated wheat fields that stretch over the broad, flat landscape of the mesa and a citrus grove located on the left (south) side of the photograph. The McCoy Mountains extend across the horizon and an existing low-voltage distribution line crosses the view in the background (*Figure 3.1-4*). This residence would be as close as 230 feet from proposed solar arrays and would be the closest sensitive viewpoint to the solar facility. Visual sensitivity from this KOP 1 is high, as viewers have unobstructed foreground views of the Project site with a high view duration.

As shown in the simulation for KOP 1, after construction, the solar arrays would be visible in the foreground and middleground. Because viewers from KOP 1 would be at the same elevation as the solar array, they would primarily see the outer rows of PV trackers, which are seen as a dark horizontal band that would stretch across the horizon between the light tan ground plane of the mesa and the mountains in the distance. Moderate visual contrast (strong structure contrast, weak landform contrast, and weak vegetation contrast) would occur to viewers from this KOP. The Project's proposed 230 kV gen-tie line would not be visible from this KOP (*Figure 3.1-4).*

KOP 2: View from Palo Verde College

KOP 2 is located on 6th Avenue to the west of the Palo Verde College campus and is representative of views of the Project from the campus.

The photograph was taken looking toward the southwest and encompasses a desert dry wash and creosote bush scrub in the foreground and middleground within 0.5-mile, non-irrigated wheat fields behind the wash and an existing citrus grove in the background to the right of the photograph. An existing transmission line is also visible in the background and the McCoy Mountains and Mule Mountains are visible on the horizon (*Figure 3.1-5*). KOP 2 is a distinct view from the college. Visual sensitivity from KOP 2 is low to moderate, as viewers have unobstructed long duration views of the Project site; however, views are be limited to the background viewing distance.

As shown in the simulation for KOP 2 (*Figure 3.1-5*), after construction of the Project, the fence and solar array would be located 0.8 mile or more from the KOP photo location, in the background distance zone. Similar to views from KOP 1, because viewers would be close to the same elevation as the solar array, they would primarily see the outer rows of PV trackers, which would be perceived as a dark, narrow band that would stretch across the horizon between the light tan ground plane of the mesa and the mountains in the distance. Some of the existing transmission structures that are visible in the existing view would be removed. Moderate visual contrast (strong structure contrast, weak landform contrast, and weak vegetation contrast) and low impacts to viewers would occur.

The Project's proposed 230 kV gen-tie line would be visible in the background distance zone. Moderate visual contrast between the Project and the existing landscape would occur. Because

the gen-tie line would be over 1.7 miles away and viewed in the background distance zone, visual contrast resulting from views of the gen-tie line for the residential viewers would be low.

KOP 3: View from Palo Verde Municipal Golf Course

KOP 3 is located at the west edge of the Palo Verde Municipal Golf Course. KOP 3 is a distinct view from the golf course but is representative of views residences and businesses clustered around the golf course. The photograph was taken looking toward the southwest and is similar to the view from KOP 2; however, it is located further from the Project area (over 1.5 miles away from the solar facility boundary and over 2.2 miles away from the solar array). Foreground views include sand, dirt, creosote bush scrub, and a desert wash. Middleground views include some of the Palo Verde College campus's buildings that are visible on the left (south) side of the photograph, as well as transmission lines and a few other structures that are perceptible in the distance. Background views include limited distant views of the citrus orchard along the horizon on the right-hand side of the photograph, an existing transmission line, and the McCoy Mountains and Mule Mountains, which are visible on the horizon (*Figure 3.1-6*). Visual sensitivity from KOP 3 would be moderate to high, as the viewers have both obstructed and unobstructed views of the Project site within the middleground to background, and moderate to high viewing duration.

As shown in the simulation for KOP 3, after construction of the Project, the solar array would not be visible from KOP 3 (see *Figure 3.1-6*); therefore, visual contrast between the Project and its surroundings would be low.

As shown in the simulation for KOP 3, the Project's proposed 230 kV gen-tie line would be visible in the background distance zone. Because the gen-tie line would be approximately 3 miles from the KOP at its closest point, perception of the transmission line for viewers would be limited. Moderate visual contrast and low impacts to views of the agricultural landscape, which has low scenic value that is common to the area, would occur for the viewers at this KOP location.

KOP 4: View from West Riverside Drive and South Defrain Boulevard

KOP 4 is located at the intersection of West Riverside Drive and South Defrain Boulevard on the Palo Verde valley floor. This view is representative of views from local roadways west of the City of Blythe. It is below Palo Verde Mesa in an agricultural area on the outskirts of Blythe. Foreground and middleground views include open green agricultural fields. The mesa is visible as a light brown band across the background view, with the Big Maria Mountains and the McCoy Mountains visible beyond the horizon (*Figure 3.1-7*). Viewer sensitivity is low to moderate, as the viewer has unobstructed views of the Project site with low to moderate view duration within the middleground and background.

As shown on the simulation for KOP 4, after construction of the Project, the solar array would be barely visible from KOP 4 as a thin dark band that would stretch across a portion of the horizon between the light tan ground plane of the mesa and the mountains in the distance. The majority of the solar array would be hidden by topography and would not be visible from the KOP. The solar array is located in the background distance zone views from the Palo Verde valley floor below the

Mesa Bluffs. In the simulation, the solar array is visible in the southernmost (left side of photograph) quarter of the simulation. There would be moderate visual contrast and low impacts to views of the agricultural landscape, which has low scenic value that is common to the area, would occur for viewers in this area (Figure 3.1-7).

Middleground views to the south and east of the 230 kV gen-tie line and background views of the 230 kV gen-tie line southwest of the subdivision would be visible. Strong visual contrast and moderate visual impacts to viewers in the park would result from views of the 230 kV gen-tie line, but these would occur in the low scenic value agricultural landscape that is common to the region.

KOP 5: View from I-10

KOP 5 is located along I-10, which is a Riverside County Eligible Scenic Corridor and is therefore considered to be a scenic highway. This KOP is representative of existing and proposed views for eastbound and westbound motorists on I-10 (*Figure 3.1-8*). Existing views from this KOP include I-10, transmission lines, wooden and steel transmission poles, and other man-made features along both east and west sides of I-10 within the foreground and middleground. In addition, vegetation and varying topography can be seen throughout the foreground and middleground. Background views comprise the Sawtooth Mountains, I-10 and existing transmission lines. Due to the existing features in the viewshed and the distance from the Project (approximately 2 miles north), views of the Project site (and specifically solar arrays) would either not be visible from I-10, or would be very limited within the background from this KOP. Therefore, this KOP is intended to represent views of the proposed gen-tie line, which would be visible from I-10[2]. The Viewer sensitivity is moderate, as viewers have mostly unobstructed views of the proposed gen-tie line alignment within the foreground and middleground; however, given the high speeds at which motorists travel along I-10, viewing duration is low.

The view to the west would be similar and would also encompass human-made features such as the interstate and transmission lines, as well as undeveloped, unvegetated areas and creosote bush scrub throughout the foreground and middleground. However, views to the west would also include the Blythe Airport and the Blythe Energy Center on the north side of I-10, and the community of Nicholls Warm Springs/Mesa Verde on the south side of I-10 (refer to *Figure 3.1-1*). Background views would include the Big Maria Mountains to the northwest, the McCoy Mountains to the west, and the Mule Mountains to the southwest.

As shown in the simulation for KOP 5, after construction, views along I-10 would be limited to the gen-tie line in the immediate foreground (see *Figure 3.1-8*). Views of additional steel monopoles and additional transmission lines would be seen on the north and south sides of I-10 and an additional line would cross I-10. Motorists would view the Project in the context of its surrounding land uses, including the Blythe Energy Center, several electrical transmission lines crossing I-10, the Blythe Municipal Airport, and commercial businesses. The proposed gen-tie

[2] Views of the solar arrays are most visible from KOP 1.

line would be consistent with the existing industrial infrastructure along I-10 and would not block views of scenic features such as the mountains. In addition, the solar arrays would either not be visible, or visibility would be very limited within the background from this KOP. Therefore, weak visual contrast (weak structure contrast, weak landform contrast, and weak vegetation contrast) between the Project and its surroundings would be visible to viewers at this KOP.

Impact AES-1: The Project could substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. This impact would be *less than significant.*

There are no officially designated state- or county scenic highways within the study area; however, I-10 has been identified by the County of Riverside as eligible for designation as a scenic corridor. A significant impact on scenic resources is defined as circumstances in which construction or operational activities would introduce permanent dominant visual elements that, based on the landscape sensitivity level, would result in noticeable to very noticeable changes in the visual character of a vista viewshed that do not blend and are not in keeping or are incompatible with the existing visual environment. These changes can be viewed from sensitive viewpoints (e.g. motorists or residential areas) from public viewing areas (as represented in the KOPs).

Because of I-10's status as a local eligible scenic corridor, its level of use by motorists, and its close proximity to the Project, I-10 is considered a scenic corridor and a sensitive viewing point.

Construction of the proposed Project would require the presence of delivery trucks and vehicles, mobile construction equipment, storage of materials, and active work areas, as well as employee vehicles. Construction of the gen-tie line would be most visible from KOP 5 but would be temporary. As described above, due to viewing distance, views of solar facility construction would be either not available or very limited to background views and would also be temporary (developed in 6 months phases). Although the presence of construction equipment may increase the visual contrast of the area, impacts would be temporary and I-10 is a major transportation corridor within the area, therefore, vehicles and equipment would not be considered out of character for visual conditions along I-10. Once constructed, the Project's 230 kV gen-tie line would be visible crossing I-10. The gen-tie line would cross near the location where an existing transmission line crosses I-10 and would be viewed in conjunction with the existing transmission line. The 230 kV gen-tie line would parallel I-10 for a short distance that would be visible from KOP 5. Viewers along I-10 would have immediate and foreground views of the east end of the gen-tie line where weak overall contrast with the existing landscape would occur, and foreground views of the gen-tie line where moderate overall contrast with the existing landscape would occur. However, as previously noted, this area currently has an existing transmission line, therefore, the Project would create weak to moderate levels of contrast with the existing landscape. In addition, as part of the Project, BMP-12 (Gen-tie lines) would minimize specular glare from the gen-tie lines and BMP-8 (Cleanup and restoration), BMP-10 (Integrated Weed Management Plan), and BMP-13 (Ground and surface disturbance) would further minimize visual impacts. The impacts of the gen-tie line to viewers from I-10 would be less than significant.

At the end of the Project's useful life, it would require decommissioning. The types of equipment used for decommissioning and related activities would be similar to those required for construction; therefore, impacts from decommissioning of the Project would be similar to those of construction. Post-decommissioning, the Project site would be available to return to agricultural lands and a Reclamation Plan would be implemented to revert the solar facility site back to pre-Project conditions. Removal of the Project's gen-tie line would eliminate the visual impacts that would result from operation of the Project's lines.

During the decommissioning process, impacts to motorists along I-10 would be the same as those described above during construction and generally limited to views of the gen-tie line. Motorists would view the Project in the context of its surrounding land uses, including the Blythe Energy Center, several electrical transmission lines crossing I-10, the Blythe Municipal Airport, and commercial businesses.

In summary, construction, operation, maintenance, and decommissioning of the proposed Project would not strongly increase the visual contrast of the area and would not substantially degrade the existing previously disturbed and human-made visual character along I-10. Additionally, the Project would be consistent with visual policies contained in the Riverside County General Plan, the Palo Verde Valley Area Plan, and the City of Blythe General Plan 2025, which contain policies to protect the scenic quality of views from designated and eligible scenic highways. There are no scenic resources such as significant trees, rocks, historic buildings, or prominent topographic features that would be degraded as a result of the Project. Therefore, no substantial adverse effects to scenic resources would occur, and impacts during construction, operation, maintenance, and decommissioning would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact AES-2: The Project could substantially degrade the existing visual character or quality of the site and its surroundings. This impact would be *less than significant.*

As described in *Section 3.1.5* and depicted in *Figure 3.1-1*, five KOPs were selected from the identified sensitive viewpoints and corridors; these KOPs are representative of views of the Project that would occur during construction, operation, maintenance, and decommissioning from KOPs. A photo simulation was developed for each KOP; the resulting simulations are illustrated in *Figure 3.1-4* (KOP 1), *Figure 3.1-5* (KOP 2), *Figure 3.1-6* (KOP 3), *Figure 3.1-7* (KOP 4) and *Figure 3.1-8* (KOP 5). As previously described, the scenic quality of the Project area and the visual resources study area was assessed as being average or common to the region. The relatively flat desert landscape, with its sparse vegetation cover, has a low level of variety and distinctiveness and a limited color palette that is common to the region. Agricultural fields and groves constitute modifications to the natural landscape, but add vibrant greens and some visual variety to the landscape. Additional cultural modifications in the visual resources study area that

are discordant with the natural desert landscape include existing transmission lines and other electrical facilities, the Blythe Energy Center, the Blythe Airport, local roads and freeways such as I-10, as well as residential development and commercial facilities associated with the City of Blythe on the west end of the visual resources study area.

As described under *Impact AES-1*, construction of the proposed Project would require the presence of construction vehicles and equipment that could be considered out of character with the surrounding rural, agricultural, and open areas. A similar circumstance would occur during decommissioning activities upon site restoration in the future. Consistent with impacts described under AES-1, because impacts during construction and decommissioning would be limited in duration and would not result in a strong visual contrast of the existing landscape, there would be a less-than-significant impact on the visual character or quality from all the KOPs during the construction period. In addition, as part of the Project, BMP-3 (Fugitive Dust Abatement Plan) and BMP-13 (Ground and surface disturbance) would minimize impacts to the visual character or quality of the site resulting from construction activities.

Figure 2-4, *Tracker Specifications*, illustrates an example of the solar panel heights, distance between panel-to-panel and tower to drive motor. Figure 2-6, *Inverter/Transformer Equipment Pad*, illustrates the location of electrical components that would be placed on top of an equipment pad, which would be located in the middle of the solar array block (see *Figure 2-5*). These figures illustrate the electrical systems that would be used in the Project area. Panels would be supported by micro-piles (15 to 20 feet long with a 4.5-inch outer diameter), driven directly into the ground by a tracked backhoe to a depth of 8 to 12 feet, which gives the Project a profile lower than that of a single-story building. Debris from the Project area will be cleared at least twice per year in conjunction with regular panel washing and site maintenance activities. As part of the Project, BMP-8 (Cleanup and restoration), BMP-10 (Integrated Weed Management Plan), BMP-11 (Project structures and building surfaces), and BMP-13 (Ground and surface disturbance) would minimize visual impacts and result in less-than-significant impacts to the visual character or quality from all the KOPs resulting from operation and maintenance.

Strong structure contrast, weak landform contrast, and weak vegetation contrast would combine to create an overall moderate level of visual change and contrast in the landscape. The north side of the Project area would be viewed in the immediate foreground and foreground distance zones from the residence north of the Project area (KOP 1), resulting in high (immediate foreground distance zone views) and moderate (foreground distance zone views) impacts to the residential viewers.

Strong vegetation contrast would occur as a result of the removal of citrus orchard. Citrus orchard is located near the middle of the Project area and is seen in the middle ground distance zone from the residence north of the Project area (KOP 1) and the residence north of the Blythe Municipal Airport. The gen-tie line could primarily be seen from KOPs 3, 4 and 5 and would include middle ground to background views of the site and existing citrus orchard; however, perception of the vegetation change and resulting contrast would be very indistinct as a result of the distance, which ranges from 2 to 5 miles from the KOPs. The strong vegetation contrast in combination with the strong level of structure contrast between the solar array and the existing landscape and

the weak level of landform contrast that would result from the minimal grading required for the solar array would create an overall strong level of contrast between the Project and the existing landscape for the Project area. These landscape changes result in moderate (at middleground distance zone views) impacts to viewers at KOP, as well as other residences north of the Blythe Municipal Airport and low (background distance zone views) impacts to the viewers in the background distance zone.

The creosote bush scrub and desert wash areas on the east side of the Project area would be seen in the middleground distance zone from KOP 2 (Palo Verde College). However, these would not be cleared and would not be developed as part of the solar array, resulting in no change to the existing landscape and no impacts.

The combinations of structure, vegetation, and landform contrast and the resulting overall contrast level would vary along the length of the gen-tie line. Because some portions of the gen-tie line would parallel or cross existing transmission lines, varying changes in the levels of structure contract would occur; because the gen-tie line would traverse several existing vegetation types, varying levels of changes to the vegetation contrast would occur.

An overall moderate level of contrast between the gen-tie line (and associated clearing and grading) and the existing landscape would occur for the majority of the distance from its origin to where the gen-tie line would approach the Blythe Energy Center. This overall level is due to a strong or moderate level of structure contrast (strong: the gen-tie line would not parallel any existing transmission lines; moderate: the gen-tie line would parallel an existing 161 kV line along Buck Road), weak landform contrast, and weak vegetation contrast (non-irrigated wheat area). A 0.5-mile section where the gen-tie line would cross through the existing citrus orchard would result in an overall strong level of contrast between the gen-tie line (and associated clearing and grading) and the existing landscape. This portion would be seen in the foreground and middleground distance zones from the residence north of the Blythe Municipal Airport, resulting in moderate to high impacts to viewers. This portion would be seen very distantly from the KOPs and other sensitive viewpoints in the background distance zone, resulting in low impacts to these viewers.

An overall weak level of contrast between the gen-tie line (and associated clearing and grading) and the existing landscape would occur from where the gen-tie line would approach the Blythe Energy Center to where it would cross I-10 (KOP-5). This overall level is due to a weak level of structure contrast (the gen-tie line would be near the Blythe Energy Center and transmission lines or parallel an existing 230 kV line and two existing 69 kV lines), weak landform contrast, and weak vegetation contrast (fallow agriculture area). This portion would be seen by travelers along I-10 in the immediate foreground and foreground distance zones, resulting in moderate impacts to these viewers. Additional middleground views of this area would occur for eastbound I-10 travelers, resulting in additional low impacts to these viewers.

An overall moderate level of contrast between the gen-tie line (and associated clearing and grading) and the existing landscape would occur from the south side of I-10 to where the gen-tie line would turn west and cross the existing 230 kV line and one existing 69 kV line. Overall

moderate contrast would occur as a result of the combination of weak structure contrast (the gen-tie line would parallel an existing 230 kV line and two existing 69 kV lines), weak landform contrast, and strong vegetation contrast (citrus orchard vegetation); the combination of moderate structure contrast (the gen-tie line would parallel one existing 69 kV line with wooden H-frame structures), weak landform contrast, and strong vegetation contrast (citrus orchard vegetation); and the combination of moderate structure contrast (the gen-tie line would parallel one existing 69 kV line with wooden H-frame structures), weak landform contrast, and weak vegetation contrast (fallow agriculture area). The northern portion of this section adjacent to I-10 would be seen by eastbound and westbound travelers along I-10 in the foreground distance zone, resulting in moderate impacts to these viewers. The portion that would turn southwest, away from I-10, would be seen in the foreground distance zone by eastbound travelers (including the location of KOP 2) along approximately 0.5 mile of I-10, while westbound travelers would view the line in the foreground distance zone for approximately 0.4 mile of I-10, resulting in moderate impacts to these viewers. Additional middleground distance zone views from the eastbound portion of I-10 west of the gen-tie line would occur, resulting in moderate impacts to viewers.

An overall weak level of contrast between the gen-tie line (and associated clearing and grading) and the existing landscape would occur where the proposed line would turn west and cross the existing 230 kV line and one existing 69 kV line. This overall weak level is due to the combination of weak structure contrast (the gen-tie line would cross the two existing lines), weak landform contrast, and weak vegetation contrast (fallow agriculture). Travelers in both directions along I-10 would have middleground distance zone views of this area, resulting in low impacts to viewers.

An overall strong level of contrast between the gen-tie line (and associated clearing and grading) and the existing landscape would occur for 6 miles of the total 6.5 miles between where the proposed line would turn west and the Colorado River Substation. This overall strong level is due to strong structure contrast (no existing lines would be paralleled), weak landform contrast, and moderate vegetation contrast (creosote bush scrub and desert wash vegetation). An overall moderate level of contrast between the gen-tie line (and associated clearing and grading) and the existing landscape would occur for 0.5 mile between Mesa Drive and Eugene Drive. This overall moderate level is due to strong structure contrast (no existing lines would be paralleled), weak landform contrast, and low vegetation contrast (non-irrigated wheat fields). Residential viewers in the Nicholls Warm Springs/Mesa Verde Community, including Mesa Verde Park, and travelers in both directions along I-10 would have middleground views of the gen-tie line, resulting in moderate impacts to viewers.

As described under Impact AES-1, the types of equipment used and activities required for decommissioning would be similar to those of construction; therefore, impacts from decommissioning of the Project would be similar to those of construction and removal of the Project's gen-tie line would eliminate the visual impacts that would result from operation and maintenance of the Project's lines. Post-decommissioning, a Reclamation Plan would be implemented to revert the solar facility site back to agricultural use; therefore, impacts would be less than significant.

The Project would be located in an area currently occupied by agricultural fields (non-irrigated wheat), citrus groves, and desert scrub and washes. As described earlier, the visual character and quality of the Project area is Class C, or common to the area. The existing visual character of the landscape is already influenced by human-made features such as existing transmission lines and nearby existing development, including the Blythe Energy Center and the Blythe Municipal Airport. As previously described, the greatest change in the level of visual contrast would be experienced by viewers located close to the same elevation as the solar arrays; they would primarily see the outer rows of PV trackers, which would be perceived as a dark, horizontal band that would stretch across the horizon between the light tan ground plane of the mesa and the mountains in the distance (as shown most prominent in KOPs 1 and 3). Impacts from presence of the solar arrays would not substantially degrade the existing scenic quality in the area and therefore, would be less than significant**.** The proposed 230-kV gen-tie line would be most visible from KOP 4. The visual impact of the gen-tie line may be perceptible, particularly to residences along the alignment, but they would be minor, and not substantial in context of the existing landscape.

Although the Project would change the existing visual character of the site from agriculture to a solar energy facility, it would not alter the site in a manner that would substantially degrade its scenic value, which is considered low. The proposed solar facility is located in a sparsely populated area with no unique or outstanding visual features. Therefore, less-than-significant impacts would occur with regard to degrading the existing visual character or quality of the site as a result of the construction, operation, maintenance, and decommissioning of the Project.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation.

This impact would be less than significant.

Impact AES-3: The Project could create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. This impact would be *less than significant.*

Construction of the proposed Project would generally occur during daytime hours and could occur as late as 7:00 p.m. in order to meet the construction schedule. No overnight construction would occur. In the event that work is performed at a time before 7:00 p.m. that requires supplemental lighting, the construction crew would use only the minimum illumination needed to perform the work safely. All lighting would be directed downward and shielded to focus illumination on the desired work areas only, and to prevent light spillage onto adjacent properties. As part of the Project, BMP-6 (Lighting Plan) would further minimize any visual impacts resulting from lighting. With the implementation of BMPs and because lighting would be shielded and focused downward and lighting used to illuminate work areas would be turned off by 7:00 p.m., light or glare created by construction lighting would be minimal and would not adversely affect day or nighttime views in the area. Therefore, impacts would be less than significant.

The Solar Facility and security lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives and would be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Project lighting would result in no substantial impacts related to light and glare in the area. As part of the Project, BMP-6 (Lighting Plan) would further minimize any visual impacts resulting from lighting.

For the reasons discussed below, the Project would not result in substantial impacts related to light and glare to residents or motorists near the Project, users of recreational facilities in close proximity to the Project, or from aircraft. Three-dimensional terrain data and panel placement plans for the Project show that the residence north of the Project area, where the closest ground-based viewers would be located, would be 500 feet away from the closest source of glare. The resulting glare would be located approximately 66 feet above the ground surface at the closest viewpoint distance of 500 feet. The residence north of the Blythe Municipal Airport, on the south side of the proposed solar array (APN 821080021), would be farther than 500 feet from the closest source of glare, and the resulting glare would be more than 66 feet above the ground surface. This would result in no glare impacts to ground-based viewers and residences during normal operation of the Project. For example, the Blythe Municipal Golf Course, which is the closest recreational facility, is approximately 1.8 miles from the Project. At the distance of 1.8 miles the resulting glare is anticipated to occur at approximately 1,250 feet above ground surface. I-10 is approximately the same distance from the solar array as the Blythe Municipal Golf Course and glare would occur at approximately the same height above ground surface (1,250 feet above ground surface). Therefore, the solar array would not create substantial glint or glare during normal operations that would be visible from sensitive viewpoints, including residences with views of the Project, I-10, and recreational facilities; no adverse impacts to sensitive viewpoints related to glare would result from the proposed Project. As part of the Project, BMP-11 (Project structures and building surfaces) would minimize the potential for glare from any structure or building surfaces. Please see Section 3.8, *Hazards and Hazardous Materials*, for a discussion of airport safety issues related to glare.

No lighting would be required for the Project's gen-tie line. Non-specular conductors with non-reflective finishes would be utilized to minimize glint resulting from the sun reflecting off the gen-tie line's conductors and would be less visible from a distance than the shiny, reflective surface of typical electrical conductors.

BMP-12 (Gen-tie lines) would minimize specular glare from the gen-tie line conductors and would minimize any potential impacts resulting from glare from the gen-tie line conductors. Impacts related to light and glare associated with operations and maintenance are anticipated to be less than significant.

As described under Impact AES-1, the types of equipment used and activities required for decommissioning would be similar to those of construction; therefore, impacts from decommissioning of the Project would be similar to those of construction (i.e., less than significant). As part of the Project, BMP-6 (Lighting Plan) would further minimize any visual

impacts resulting from lighting. The Project would not result in substantial impacts related to light and glare in the area.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact AES-4: The Project could result in the creation of an aesthetically offensive site open to public view. This impact would be *less than significant*.

As described under Impacts AES-1 and AES-2, construction of the Project would cause temporary visual impacts due to the presence of equipment, materials, and workers. However, these short-term impacts would occur throughout the solar facility at various times over the course of the construction period.

Construction activities and equipment would result in adverse visual impacts for sensitive viewers at the KOP locations, including along I-10, during the three-year construction period. The vast majority of the area disturbed by construction would eventually be occupied by the PV solar array. Impacts to visual resources associated with construction would be temporary. As part of the Project, implementation of BMP-3 (Fugitive Dust Abatement Plan) and BMP-13 (Ground and surface disturbance) would minimize visual impacts resulting from construction activities.

Construction of the Project's gen-tie line would cause temporary visual impacts due to the presence of equipment, materials, and workers. Heavy equipment, cranes to install structures, temporary storage and office facilities, and temporary laydown/staging areas would all be visible from I-10, and more distantly from the KOPs. In areas where the gen-tie line would parallel existing roads or existing transmission lines with access roads, the Project would use the existing roads. In addition, implementation of BMP-13 (Ground and surface disturbance) as part of the Project would minimize surface disturbance and allow native vegetation to remain in place. Given the existing visual character in the study area, and temporary nature of construction, these impacts would not result in an aesthetically offensive site to public viewers and impacts would be less than significant.

Based on the distance/visibility thresholds, the solar facility would be within the immediate foreground view of sensitive viewpoints at 0 to 300 feet, foreground view at 300 to 1,500 feet, middleground view within 1,500 feet to 0.5 mile, and background view beyond 0.5 mile. The proposed 230 kV gen-tie line would be within the immediate foreground view of sensitive viewpoints at 0 to 500 feet, foreground view within 500 feet to 0.5 mile, middleground view within 0.5 to 1.5 miles, and background view beyond 1.5 miles. The public would primarily see the Project area from local public roads and from Palo Verde College, Palo Verde Municipal Golf Course, and I-10.

As described under Impact AES-2, the Project would change the existing visual character of the site from agriculture to a solar energy facility area. However, views of the Project area are already

influenced by nearby existing electrical facilities, which include transmission and distribution lines and the Blythe Energy Center. Views of the ground plane would be blocked but views over the solar array of the distant mountains would be unchanged for close views (immediate foreground and foreground views, which include locations within 1,500 feet of the solar array site). Because the Project would typically be viewed from the same elevation or from below the Mesa Bluff at a lower elevation, the solar array would appear as a narrow, dark band across the landscape in more distant views, and would not block the view of the mountains beyond it or dominate the view. Therefore, the Project would not alter the site in a manner that would create a substantially aesthetically offensive site open to public view. Thus, impacts to public views would be less than significant. As part of the Project, BMP-3 (Fugitive Dust Abatement Plan), BMP-8 (Cleanup and restoration), BMP-10 (Integrated Weed Management Plan), BMP-11 (Project structures and building surfaces), and BMP-13 (Ground and surface disturbance) would minimize visibility of the site for the public from the KOPs and would reduce impacts to viewers.

As described under Impact AES-1, the types of equipment used for decommissioning would be similar to that of construction; therefore, impacts from decommissioning of the Project would be similar to that of construction. Post-decommissioning, a Reclamation Plan would be implemented to revert the solar facility site back to agricultural use. Removal of the Project's gen-tie line would eliminate the visual impacts that would result from operation of the Project's lines.

As previously described, construction of the Project would cause temporary visual impacts due to the presence of equipment, materials, and workers. However, these short-term impacts would only occur throughout the construction period and BMPs would reduce potential impacts to visual resources. Operation and maintenance of the Project would change the existing visual character of the site from agriculture to a solar energy facility area and periodically could result in the presence of workers or maintenance vehicles. However, the Project area is considered to have low scenic value and is already influenced by the presence, operation, and maintenance of nearby existing electrical facilities. Therefore, overall visual impacts of the Project would not result in an aesthetically offensive site to public viewers and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact AES-5: The Project could expose residential property to unacceptable light levels. This impact would be *less than significant.*

The proposed Project would be visible from residences on the Palo Verde valley floor below the Mesa Bluffs. The nearest residence is located adjacent to the northern boundary of the Project site and views from it are represented in KOP 1.

As described in the discussion under Impact AES-3, construction, operation, maintenance, and decommissioning of the Project would use minimal lighting and will be designed to provide the

minimum illumination needed to achieve safety and security objectives. All construction lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light spillage onto adjacent property. Lenses and bulbs shall not extend below the shields. Additionally, existing sources of light, such as the Blythe Energy Center, Blythe Substation, I-10 and the Blythe Municipal Airport are located in the area.

Construction of the proposed Project would generally occur during daytime hours and could occur as late as 7:00 p.m. in order to meet the construction schedule. No overnight construction would occur. In the event that work is performed before 7:00 p.m. and requires supplemental lighting, the construction crew would use only the minimum illumination needed to perform the work safely. In addition, as part of the Project, BMP-6 (Lighting Plan) would further reduce any visual impacts resulting from lighting. Exposure to residential property from unacceptable light levels would be less than significant.

As previously described, Project facility and security lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives and would be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Project lighting would result in no substantial impacts related to light and glare in the area. As part of the Project, BMP-6 (Lighting Plan) would further minimize any visual impacts resulting from lighting. No lighting would be required for the gen-tie line. Therefore, impacts would be less than significant.

As described under Impact AES-1, the types of equipment used and activities required for decommissioning would be similar to those of construction; therefore, impacts from decommissioning of the Project would be similar to those of construction. Impacts during decommissioning would be less than significant.

BMP-6 would be implemented during the construction, operation, maintenance, and decommissioning phases of the Project to significantly reduce Project-generated light levels at nearby residences. With implementation of BMP-6, the Project would not expose residential property to unacceptable light levels. Therefore, this impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

3.1.7 Cumulative Impacts

The geographic scope of the visual resources cumulative effects analysis is the visual resources study area described in Section 3.1.1. This area includes locations from which a viewer could see the PVMSP along with views of other projects (where visual impacts could be additive). The Project could contribute to cumulative effects to aesthetics from the time that work begins onsite until the time that decommissioning activities conclude, which is estimated to be an approximately 30-year period.

Cumulative light and glare conditions could be caused by the incremental contributions of the PVMSP (described in Section 3.1.6) together with the ongoing impacts of past projects (such as from the sources of existing light and glare described in Section 3.1.1) and light and glare caused by other present and reasonably foreseeable future projects (see Table 3-2) that would be located within the visual resources study area. There are approximately 32 projects within the cumulative geographic scope for aesthetics, some of which could result in temporary and permanent substantial visual changes to the landscape. Such projects include, for example, the Blythe Airport Solar I Project, Blythe Mesa Solar Project, Blythe Power Project, Desert Southwest Transmission Line, and Blythe Energy Project II. New residential development may be located within the visual resources study area; however, specific mapping is not available. Cumulative projects that could be viewed by travelers along the I-10 corridor include the previously identified projects as well as Mule Mountain III, Wiley's Well Communication Tower, Maverick Solar Project, Desert Center 50, SCE Red Bluff Substation, Blythe Solar Power Generation Station 1, Blythe Energy Project II, Colorado River Substation, Desert Southwest Transmission Line, Devers-Palo Verde 2 Transmission Line, Sonoran West SEGS, Desert Quartzite Solar Project, and Chuckwalla Solar Project.

If construction of all cumulative projects within the visual resources study area were to occur at the same time, the area would be introduced to additional construction activities, equipment, and night lighting from these sites. These construction impacts would include presence of heavy equipment, dust, fencing, materials, and supplies in the local Project region. Impacts would be temporary however; following construction, the equipment and associated supplies would be removed. Construction activities would introduce a high level of contrast within the landscape and reduce the visual character of the area which would be considered cumulatively significant with respect to aesthetics. In addition, multiple cumulative projects would be viewed by travelers along the I-10 corridor at various distances, which would be considered cumulatively significant with respect to aesthetics in the corridor. Once in operation, these cumulative projects would have a cumulatively considerable impact on the existing visual character of the area since existing agricultural lands would have been converted to other uses. In addition, multiple cumulative projects would be viewed by travelers along the I-10 corridor at various distances which would be considered cumulatively significant with respect to aesthetics in the corridor. Impacts to night skies, light and glare from the construction and operation of projects in the cumulative scenario would also be considered cumulatively significant.

The incremental effects of the proposed Project, in combination with the impacts of other cumulative projects in the geographic scope, would contribute to the potential for significant aesthetic impacts. However, due to the flat topography of the Project site and surrounding area, which is predominantly removed from public views within an area surrounded by existing agricultural land, the Project would not be highly visible from surrounding public viewpoints, as shown in the visual simulations and described in Impact AES-2 above. Further, as previously mentioned, the Project would be within a disturbed area on the eastern edge of the Palo Verde Mesa. The solar facility would be surrounded by other industrial uses (Blythe Airport, the Blythe Energy Center, and an existing PV project). The gen-tie line would be co-located with other existing and planned transmission lines and within the federally designated utility corridors

(Corridors J and K and Section 368 Federal Energy Corridor 30-52). The PVMSP would not be located in a designated scenic vista, nor has the County of Riverside General Plan designated the Project area as an important visual resource. No visible historic structures or significant scenic resources exist within the visual resources study area. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the PVMSP's incremental contribution to cumulative aesthetics impacts associated with construction, operation and maintenance of the Project would not be cumulatively considerable (less than significant).

There would be no significant new light sources associated with the Project that would contribute to cumulative impacts on night skies in the area. No nighttime activities are anticipated during operation and maintenance of the Project. Glare impacts would be minimized by the inherent design qualities of the PV panels, which reduce reflectivity and the potential for visual discomfort or impairment. Additional PV panels in the area would not result in a greater intensity of glare because of the panel design and the law of reflectivity, which would not direct any reflected light along the ground surface. Accordingly, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the PVMSP's incremental contribution to lighting or glare impacts associated with construction, operation and maintenance of the Project would not be cumulatively considerable (less than significant).

At the end of the proposed Project's useful life of approximately 30 years, it would be decommissioned and dismantled. The types of equipment used and activities required for decommissioning would be similar to those of construction; therefore, aesthetics impacts from decommissioning of the Project would be similar to those of construction. In addition, post-decommissioning, a Reclamation Plan would be implemented to make the land available for agricultural use.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

3.1.8 Mitigation Measures

No mitigation measures are required.

3.2 Agriculture and Forestry Resources

This section discusses the existing environment as it relates to agricultural resources, presents the associated regulatory framework, and provides an analysis of potential impacts that would result from construction, operation, maintenance, and decommissioning of the proposed Project.

The information contained in this section is based on the following resources: Riverside County General Plan; soil classifications by the United States Department of Agriculture's (USDA) Natural Resources Conservation Service's (NRCS) Web Soil Survey; California Department of Conservation (DOC) Farmland Monitoring and Mapping Program (FMMP) data; Palo Verde Irrigation District Crop Report; and aerial photography.

3.2.1 Environmental Setting

Regional Setting

Agriculture remains a strong component in Riverside County's economy, and Riverside County agriculture competes successfully in the global agricultural market. According to the annual Riverside County Agricultural Production Report (2013), agriculture production accounted for an estimated $1.3 million in 2013, accounting for a 6 percent increase from the previous year. The primary agricultural products from Riverside County include nursery stock, milk, table grapes, hay, bell peppers, and eggs. Nursery stock ranked as the top-valued crop in Riverside County (Riverside County, 2014).

The most recent agricultural land conversion data available for Riverside County is for the 2010 to 2012 period. Land converted in this period is shown below in **Table 3.2-1**.

As shown in Table 3.2-1, for the two-year period from 2010 to 2012, Riverside County had a decrease of 3,218 acres in the total amount of active agricultural land mapped by the FMMP. This included a decrease of 2,761 acres of Important Farmland (including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance) and a decrease of 457 acres of Grazing Land. Total acres of agriculture land converted to another use between 2010 and 2012 was 15,187. The largest conversion was to Farmland of Local Importance: 5,460 acres were converted to other uses over the two-year period (DOC, 2016b).

TABLE 3.2-1
RIVERSIDE COUNTY AGRICULTURAL LAND CONVERSION 2010 TO 2012

Land Use Category	Total Acreage Inventoried		2010-12 Acreage Changes			
	2010	2012	Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
Prime Farmland	119,635	119,309	2,421	2,095	4,516	-326
Farmland of Statewide Importance	44,085	43,919	750	584	1,334	-166
Unique Farmland	35,392	33,340	2,790	738	3,528	-2,052
Farmland of Local Importance	229,875	229,658	5,460	5,243	10,703	-217
IMPORTANT FARMLAND SUBTOTAL	428,987	426,226	11,421	8,660	20,081	-2,761
Grazing Land	110,842	110,385	487	30	517	-457
AGRICULTURAL LAND SUBTOTAL	539,829	536,611	11,908	8,690	20,598	-3,218
Urban and Built-up Land	321,555	325,407	445	4,297	4,742	3,852
Other Land	1,020,717	1,020,083	2,834	2,200	5,034	-634
Water Area	62,361	62,361	0	0	0	0
TOTAL AREA INVENTORIED	**1,944,462**	**1,944,462**	**15,187**	**15,187**	**30,374**	**0**

SOURCE: DOC 2016b

Local Setting

Palo Verde Valley

The Project would be located to the west of the Palo Verde Valley area and City of Blythe; a small portion of the gen-tie line would be within the City of Blythe. The Palo Verde Valley floor is one of the richest agricultural regions in California. The soils, deposited by the Colorado River, are classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland, some of which are under Williamson Act contracts. Based on Sheet 3 of the Riverside County Important Farmland 2012 map, approximately 198,000 acres of Important Farmland are within the Palo Verde Valley. The Palo Verde Valley supports agricultural lands that include alfalfa, cotton, wheat and barley, and Sudan grass and Bermuda grass (PVID, 2014). With its long, hot growing season, the Palo Verde Valley is ideal for agriculture; crops are grown and harvested year-round. Mild winters, with a minimum of frost, permit growing of many crops not suitable for production in other areas. The City of Blythe is located on the Palo Verde Valley floor, with a small portion also located on the Palo Verde Mesa. Primary agricultural uses within the City of Blythe include alfalfa, cotton, hay, orchards, and field crops. Land on the Palo Verde Valley floor to the north and south of I-10 are considered suitable for seasonal livestock (sheep) grazing (City of Blythe, 2014).

Colorado River water is supplied to the Palo Verde Valley area through the Palo Verde Irrigation District (PVID) canals and laterals. There are also a number of irrigation ditches that are owned and operated by the water users in the PVID. PVID reports that there were 3,911 acre-feet (ac-ft) of groundwater provided to irrigate 768 acres on the Palo Verde Mesa in 2010; however, this

groundwater does not support agricultural operations on the Project area. Instead, irrigation of agricultural lands (approximately 3,403 ac-ft per year [ac-ft/yr]) is obtained from the PVID surface delivery system of surface water. Water supply needs would be reduced to approximately 500 ac-ft/yr during the three-year construction period and 302 ac-ft/yr during operation. Therefore, the Project does not represent a new demand for water supply, but converts the existing agricultural irrigation use to the proposed solar Project. Please refer to Section 3.9, *Hydrology and Water Quality*, for a detailed discussion regarding groundwater and water supply.

The PVID contains a total of approximately 131,298 acres, 26,798 acres of which are on the Palo Verde Mesa (PVID, 2015). In 2014, there were 123,900 acres of crops within the PVID including the following: field crops (88,874 acres); vegetables (3,066 acres); and melons (2,551 acres). Crops classified as "other" include 29,409 acres of fish ponds, fallow, idle or diverted crops.

Palo Verde Mesa

The proposed Project is located on the Palo Verde Mesa, generally west of Palo Verde Valley, which has a higher elevation in comparison to the Palo Verde Valley. Water supplied from the PVID is transported to the Mesa by private pumps to irrigate agricultural lands. The PVID provides water to the Palo Verde Mesa (PVID, 2015).

According to the 2012 FMMP, the solar facility site would occupy 322 acres of Important Farmland (148 acres of Prime Farmland, 85 acres of Unique Farmland, 89 acres of Farmland of Statewide Importance); there are no Williamson Act contract lands within the Project boundary or within one mile of the Project. **Figure 3.2-1** depicts the Important Farmland Classifications within a 0.25-mile buffer of the solar facility site and **Figure 3.2-2** shows the soil types in the project area. The 100-foot-wide gen-tie line corridor would traverse 28 acres of Prime Farmland and 82 acres of Farmland of Local Importance on the portion that crosses the City of Blythe. Because the BLM does not designate agricultural resources, the portion of the gen-tie line on BLM-managed land does not contain designated agricultural resources.

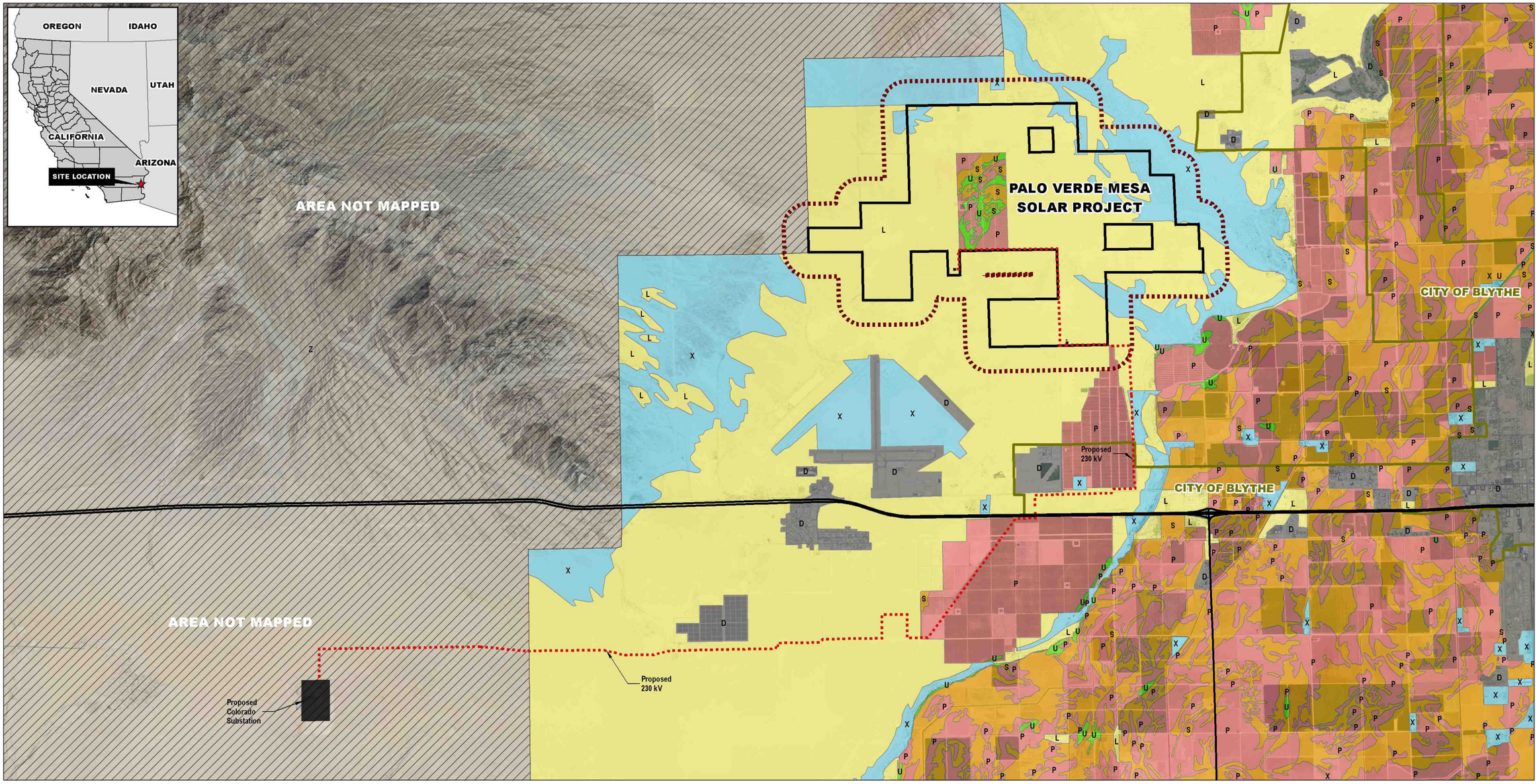
The Project site contains 725 acres of Farmland of Local Importance. Farmland of Local Importance is land of importance to the local economy, as defined by each county's local advisory committee and adopted by its Board of Supervisors. Farmland of Local Importance is either currently producing, or has the capability of production, but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Authority to adopt or to recommend changes to the category of Farmland of Local Importance rests with the Board of Supervisors in each county. Therefore, local Important Farmlands are not covered under the FMMP or addressed in the CEQA thresholds, but are of local economic importance and include the following:

- Lands with soils that would be classified as Prime or Statewide Important Farmlands but lack available irrigation water.
- Lands planted in 1980 or 1981 in dry land grain crops such as barley, oats, and wheat.
- Lands producing major crops for Riverside County that are not listed as Unique Farmland crops. Such crops are permanent pasture (irrigated), summer squash, okra, eggplant, radishes, and watermelon.

- Dairylands including corrals, pasture, milking facilities, hay, and manure storage areas if accompanied with permanent pasture or hayland of 10 acres or more.
- Lands identified by the County with Agriculture land use designations or contracts.
- Lands planted with jojoba that are under cultivation and are of producing age.

Approximately 91percent of the proposed solar facility site is actively cultivated agricultural land, which includes non-irrigated winter wheat and citrus; the predominant crop on the Palo Verde Mesa is citrus. Of the 2,678 acres within a 0.25-mile buffer of the solar facility site, approximately 22 percent is under active cultivation. For the 500-foot wide gen-tie line corridor that extends outside the solar facility site, approximately 19.8 percent is actively cultivated agricultural land, which includes irrigated cropland, non-irrigated cropland, and an orchard (refer to Table 3.4-2).

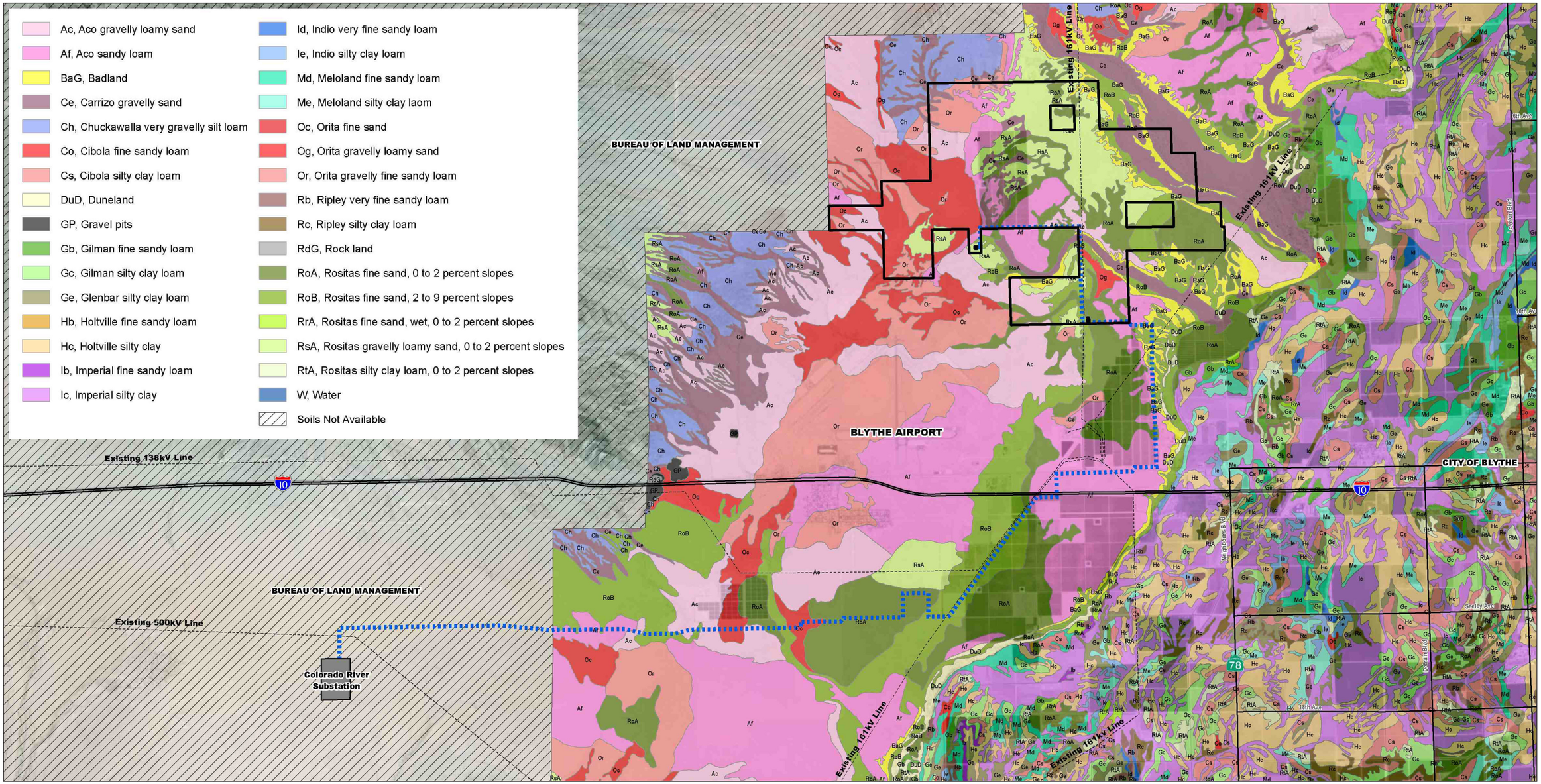
The Project would be located primarily on land zoned for agricultural production. And although timber production is an allowable activity within an agricultural zone, the Project area is not used for timber production, nor is it forested. Because of the arid climate of the region in which the Project area is located, it is unlikely that the land could support 10 percent native tree cover under natural (i.e., non-irrigated) conditions; therefore, the Project does not meet the definition of "forest land" (PRC Section 12220(g). The same land is not considered timberland (PRC Section 4526) because the land is not zoned Timberland Production Zone (TPZ) (PRC Section 51104(g)).



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.2-1
Important Farmland



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.2-2
Soils

3.2.2 Regulatory Framework

Federal

Farmland Protection Policy Act (7 USC Section 4201)

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. It additionally directs federal programs to be compatible with state and local policies for the protection of farmlands. Congress passed the Agriculture and Food Act of 1981 (Public Law 97-98) containing the FPPA—Subtitle I of Title XV, Section 1539-1549. The final rules and regulations were published in the Federal Register on June 17, 1994.

The FPPA was implemented to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses, and to ensure that federal programs are administered in a manner compatible with State and local programs and policies to protect farmland. To fulfill these objectives, the USDA has promulgated criteria and guidelines to assess the effects of the conversion of farmland. The FPPA ensures that, to the extent possible, federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every two years. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to non-agricultural use and are completed by a federal agency or with assistance from a federal agency. The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners.

For the purpose of the FPPA, "Important Farmland" includes Prime Farmland, Unique Farmland, and Farmland of Statewide or Local Importance. The USDA has developed definitions for Prime Farmland and Unique Farmland that are used for purposes of the FPPA. The federal definitions are similar to the California definitions, which are set forth below. The primary distinction between the State and federal definitions is that Prime Farmland must be irrigated to satisfy the State definitions, while irrigation is not required under the federal regulations. Under the federal regulations, Prime Farmland could be cropland, pastureland, rangeland, forest land, or other land (but not urban built-up land or water), so long as the land meets required physical and chemical criteria. In its FPPA regulations, the USDA recommends that federal agencies use a Land Evaluation and Site Assessment (LESA) system to evaluate prospective farmland conversion for projects in states that have approved LESA models.

State

California Department of Conservation, Division of Land Resource Protection

The DOC applies the NRCS soil classifications to identify agricultural lands, and these agricultural designations are used in planning for the present and future of California's agricultural land resources. Pursuant to the DOC's FMMP, these designated agricultural lands are included in the Important Farmland Maps used in planning for the present and future of California's agricultural land resources. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP

provides analysis of agricultural land use and land use changes throughout California. The DOC has a minimum mapping unit of ten acres, with parcels that are smaller than ten acres being absorbed into the surrounding classifications.

The California DOC FMMP produces Important Farmland Maps that document resource quality and land use information. The USDA soil survey information and the corresponding Important Farmland candidacy recommendations are used for assessing local land. The FMMP is intended to assist decision-makers in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources. The FMMP uses eight land classifications:

Prime Farmland. Farmland that has the ideal combination of physical and chemical features. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields and long-tern agricultural production Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance. Farmland that is similar to Prime Farmland but with minor shortcomings, such as greater slopes or lower moisture content. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland. Land with lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include land that supports non-irrigated orchards or vineyards, as found in some climatic zones in California. The land must have been used for crops at some time during the four years prior to the mapping date.

Farmland of Local Importance. Land that is important to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee.

Grazing Land. Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups with an interest in grazing activities. The minimum mapping unit for Grazing Land is 40 acres.

Urban and Built-Up Land. Land that is developed with structures that have been built to a density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land supports residential, industrial, commercial, institutional, public administrative uses; railroad and other transportation yards; cemeteries; airports; golf courses; sanitary landfills; sewage treatment facilities; water control structures; and other developed uses.

Other Land. Land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Undeveloped and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

California Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act (California Government Code Section 51200-51297.4), and is applicable to specific parcels

within the State of California. The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses in return for reduced property tax assessments. Private land within locally designated agricultural preserve areas is eligible for enrollment under a Williamson Act contract. The Williamson Act program is administered by the DOC, in conjunction with local governments that administer the individual contract arrangements with landowners. Participation in the Williamson Act program is dependent on County adoption and implementation of the program and is voluntary for landowners (DOC, 2015).

Under the Williamson Act, a landowner commits the parcel to a 10-year period, during which time no conversion out of agricultural use is permitted. In return, the land is taxed at a rate based on the actual use (i.e., agricultural production), as opposed to its unrestricted market value. Each year the contract automatically renews unless a notice of nonrenewal or cancellation is filed. However, the application to cancel must be consistent with the criteria of the affected county or city. Nonrenewal or contract cancellation does not change a property's zoning. Participation in the Williamson Act program, which is voluntary for landowners, is dependent on a county's willingness to adopt and implement the program. The Williamson Act states that a board or council will, by resolution, adopt rules governing the administration of agricultural preserves. The rules of each agricultural preserve specify the allowed uses. Generally, any commercial agricultural use would be permitted within any agricultural preserve. In addition, local governments may identify compatible uses permitted under a permit (DOC, 2015).

California Government Code Section 51238 states that, unless otherwise decided by a local board or council, the erection, construction, alteration, or maintenance of electric and communication facilities, as well as other facilities, are determined to be compatible uses within any agricultural preserve. Also Section 51238 states that board of supervisors may impose conditions on lands or land uses to be placed within preserves to permit and encourage compatible uses, in conformity with Section 51238.1. Furthermore, under California Government Code Section 51238.1, a board or council may allow any use that without conditions or mitigations would otherwise be considered incompatible. However, this may occur only if that use meets the following conditions:

- The use would not significantly compromise the long-term agricultural capability of the subject contracted parcel or parcels on other contracted lands in agricultural preserves;
- The use would not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels on other contracted lands in agricultural preserves. Uses that significantly displace agricultural operations may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping; and
- The use would not result in the significant removal of adjacent contracted land from agricultural or open-space use.

There are no Williamson Act lands that would be affected by the Project.

Farmland Security Zone Act

The Farmland Security Zone Act is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy. Farmland Security Zone Act contracts are sometimes referred to as "Super Williamson Act Contracts." Under the provisions of this act, a landowner already under a Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone classification automatically renews each year for an additional 20 years. In return for a further 35 percent reduction in the taxable value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into non-agricultural uses.

There are no Farmland Security Act Contract lands that would be affected by the Project.

California Public Resources Code

Agriculture

Public Resources Code (PRC) Section 21060.1 defines agricultural land for the purposes of assessing environmental impacts using the FMMP. Sections 21061.2 and 21095 and CEQA Guidelines Appendix G identify the California LESA model as an optional methodology to access impacts on agriculture and farmland.

The LESA model allows for rating the quality of land for agricultural uses by rating soil resources, project size, water availability, surrounding agricultural lands, and surrounding protected resource lands. The factors are weighted relative to one another, resulting in a numeric score that is measured against thresholds established by the DOC. That optional methodology is not used in this EIR.

Forestry

The PRC governs forestry, forests, and forest resources, as well as range and forage lands, within the state. "Forest land" is defined by PRC §12220(g) as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." "Timberland" is defined by Public Resources Code §4526 as, "land, other than land owned by the federal government..., which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees."

California Government Code

Chapter 6.7 of the Government Code (§§51100-51155) regulates timberlands within the state. "Timberland production zone" is defined in §51104(g) as an area that has been zoned pursuant to Government Code §51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses. In this context, "compatible uses" include any use that "does not significantly detract from the use of the property for, or inhibit, growing and harvesting timber" (Government Code §51104(h)). Watershed management, grazing and the erection, construction, alteration, or maintenance of electric transmission facilities

are examples of compatible uses. With respect to the general plans of cities and counties, 'timberland preserve zone' means 'timberland production zone.'"

Local

Riverside County General Plan

The Riverside County General Plan Land Use Element includes the Agricultural Foundation Component, which contains the Agriculture Area Plan. The Agriculture land use designation has been established to help conserve productive agricultural lands within the county. The intent of the Agriculture Foundation Component and its associated policies is to identify and preserve areas where agricultural uses are the long-term desirable use, as stated in the general plan principles: "Provide for the continued and even expanded production of agricultural products by conserving areas appropriate for agriculture and related infrastructure and supporting services." In addition, the intent of these policies is to minimize the conflicts between agricultural and urban or suburban uses (Riverside County, 2015).

Land Use Element (LU)

Policy LU-7.4. Retain and enhance the integrity of existing residential, employment, agricultural and open space areas by protecting them from encroachment of land uses that would result in impacts from noise, noxious fumes, glare, shadowing and traffic.

Policy LU-20.1 Encourage retaining agriculturally designated lands where agricultural activity can be sustained at an operational scale, where it accommodates lifestyle choice, and in locations where impacts to and from potentially incompatible uses, such as residential uses, are minimized, through incentives such as tax credits.

Policy LU-20.2. Protect agricultural uses, including those with industrial characteristics (dairies, poultry, hog farms, etc.) by discouraging inappropriate land division in the immediate proximity and allowing only uses and intensities that are compatible with agricultural uses.

Policy LU-20.4. Encourage conservation of productive agricultural lands. Preserve prime agricultural lands for high-value crop production.

Policy LU 20.5. Continue to participate in the California Land Conservation Act (the Williamson Act) of 1965.

Policy LU20.7. Adhere to Riverside County's Right-to-Farm Ordinance.

Multipurpose Open Space Element (OS)

The OS element of the general plan includes policies to preserve both agriculture and forest resources. There are no policies pertaining to forest resources that are applicable to the Project. However, the following policies regarding agricultural lands are applicable to the Project:

Policy OS 7.3. Encourage conservation of productive agricultural lands and preservation of prime agricultural lands.

Riverside County General Plan – Palo Verde Valley Area Plan

The majority of the planning area within the Palo Verde Valley is devoted to agriculture and is regulated through the Riverside County Palo Verde Valley Area Plan (PVVAP). The PVVAP provides for agricultural land use designations along with residential densities and uses. The PVVAP applies an Agriculture land use designation to the proposed solar facility site, with parcels currently zoned W-2-10 (Controlled Development Areas [10 Acre Min.]) and A-1-10 (Light Agriculture). The PVVAP applies an Agricultural land use designation to private parcels crossed by the gen-tie corridor, with parcels zoned as W-2-5 (Controlled Development Areas [Five Acre Min.]), W-2-10 (Controlled Development Areas [Ten Acre Min.]), and A-1-10 (Light Agriculture). Within the City of Blythe, the proposed gen-tie line would traverse private parcels zoned Service Industrial and Agriculture. On BLM-managed lands, the gen-tie line would be located within a designated utility corridor and within the jurisdiction of the California Desert Conservation Area (CDCA) Plan.

The applicable policy related to agricultural lands included with the PVVAP is provided below.

> **PVVAP 4.1.** Protect farmland and agricultural resources in Palo Verde Valley through adherence to the Agriculture sections of the General Plan Multipurpose Open Space and Land Use Elements.

Riverside County Agricultural Preserve Ordinance – Ordinance 509

The Riverside County Agricultural Preserve Ordinance provides for the administration of lands placed in agricultural preserves, including procedures for initiating, filing, and processing requests to establish, enlarge, disestablish, or diminish agricultural preserves, pursuant to the California Land Conservation Act. In establishing the rules under this ordinance, the County found that:

- The preservation of the maximum amount of the limited supply of agricultural land is necessary to the conservation of the County's economic resources, and is necessary not only for the maintenance of agricultural economy of the County, but also for the assurance of adequate, healthful and nutritious food for future residents of the County;
- The discouragement of premature and unnecessary conversion of agricultural land to urban uses is a matter of public interest and will be of benefit to urban dwellers themselves in that it will discourage discontinuous urban development patterns which unnecessarily increase costs of community services to community residents;
- In a rapidly urbanizing society agricultural lands have a definite public value as open space, and the preservation in agricultural production of such lands, constitutes an important physical, social, aesthetic and economic asset to existing and pending urban or metropolitan development.

There are no locally designated agricultural preserves affected by the Project.

Riverside County Ordinance 348.4705

Zoning ordinance 348.4705 permits a solar power plant in several districts, including agricultural districts, with a use permit. Ordinance 348.4705 was enacted at the same time as and implements General Plan Policy LU-15.15, which states: "Permit and encourage, in an environmentally and fiscally responsible manner, the development of renewable energy resources and related infrastructure, including but not limited to, the development of solar power plants in the County of Riverside."

Riverside County Ordinance 625, the "Right to Farm" Ordinance

Ordinance 625 factors into Riverside County's standard significance thresholds. It was enacted to conserve, protect, and encourage the development, improvement, and continued viability of agricultural land. The intent of the ordinance is to reduce the loss to the County of its agricultural resources by limiting the circumstances under which existing agricultural operations may be deemed to constitute a nuisance. Nothing in the ordinance is to be construed to limit the right of any owner of real property to request that the county consider a change in the zoning classification.

City of Blythe General Plan 2025

Policies related to agricultural lands included with the City of Blythe General Plan 2025 are provided below.

Open Space and Conservation Element

Guiding Policies

Policy 1: Maintain hillsides and viable agricultural lands as open space for resource conservation and preservation of views.

Policy 2: Minimize conflicts between urban and agricultural uses by requiring buffers and greenbelts.

Agriculture

Policy 9: Promote continued agricultural use of important farmland outside the urban area.

Policy 10: Minimize conflicts between agricultural and urban uses by requiring buffers or use restrictions or using roads or canals to separate these uses.

City of Blythe Zoning

The City of Blythe Zoning Code lists utility operations facilities among the uses permitted through obtaining a conditional use permit in the Agricultural zoning district. Utility operations facilities are permitted uses in the Service Industrial zoning district.

3.2.3 Methodology for Analysis

Baseline conditions described above in the *Local Setting*, have been evaluated with regard to their potential to be affected by Project construction, operation, maintenance, and decommissioning activities. The potential impacts associated with the Project are evaluated on a qualitative and

quantitative basis through a comparison of the anticipated Project effects on agricultural activities. The evaluation of Project impacts is based on professional judgment, analysis of Riverside County's and the City of Blythe's agricultural resources polices, and the significance criteria established by Appendix G of the CEQA Guidelines and the County of Riverside's Environmental Assessment Form.

3.2.4 Applicable Best Management Practices

As part of the Project, the following applicable BMP would minimize the environmental impacts to agricultural resources. The BMP is detailed below (see also Table 2-4, *Best Management Practices*, in Chapter 2, *Project Description*) and is further referenced (by number) within the impact discussion.

BMP-10 **Integrated Weed Management Plan.** In compliance with the Federal Noxious Weed Act and the Plant Protection Act, a Project-specific integrated weed management plan for the control of noxious weeds and invasive plant species would be prepared. The plan would identify presence, location, and abundance of weed species in the Project area and surrounding area adjacent to the Project, as well as identify suppression and containment measures to prevent the spread of weed species and introduction of weed species. Prevention techniques would include: limiting disturbance areas during construction to the minimum required to perform work; limiting ingress and egress to defined routes; maintaining vehicle wash and inspection stations; and closely monitoring the types of materials brought on site to minimize the potential for weed introduction. During operations, noxious and invasive weed management will be incorporated as a part of mandatory site training for groundskeepers and maintenance personnel. Training will include weed identification and the impacts on agriculture, wildlife, and fire frequencies. Training will also cover the importance of preventing the spread of noxious weeds and of controlling the proliferation of existing weeds.

3.2.5 CEQA Significance Criteria

The significance criteria for agriculture and forest resources listed in the CEQA Environmental Checklist, Appendix G of the CEQA Guidelines, were used to assess the significance of agricultural impacts resulting from the Project. These thresholds indicate that a project could have potentially significant impacts if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use (see Impact AG-1);
- Conflict with existing zoning for agricultural use, or a Williamson Act contract (see Impact AG-2);
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code

section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) (see Effects Found Not to Be Significant);

- Result in the loss of forest land or conversion of forest land to non-forest use (see Effects Found Not to Be Significant); or,
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or forestland to non-forest use (see Impact AG-3).

The following additional significance criteria from the County of Riverside's Environmental Assessment Form are used in the analysis. A project could have potentially significant impacts if it would:

- Conflict with land within a Riverside County Agricultural Preserve (see Effects Found Not to Be Significant); or,
- Cause development of non-agricultural uses within 300 feet of agriculturally zoned property (Ordinance No. 625, "Right-to-Farm") (see Impact AG-4).

Effects Found Not to Be Significant

It has been determined that the PVMSP would not result in impacts to the following significance criteria:

- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))

The proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).

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

The proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use. The Project would not be located on land zoned specifically as either forest land or timberland. The Project would be located primarily on land zoned for agricultural production. Although timber production is an allowable activity within an agricultural zone, the Project would not be used for timber production, nor is the site forested. Furthermore, crops grown in the Project area are irrigated because of the arid climate. It is unlikely that the land could support 10 percent native tree cover under natural (i.e., non-irrigated) conditions. Therefore, the Project does not meet the definition of "forest land." The same land is not considered timberland because the land is not zoned Timberland Production Zone (TPZ). No impact to forest land would occur.

- Conflict with land within a Riverside County Agricultural Preserve; or,

The proposed Project would not conflict with land within a Riverside County Agricultural Preserve. There are no Riverside County-designated agricultural preserves in the Project area; the Project would not convert preserve lands to non-agricultural use; no impacts would occur.

3.2.6 Impact Analysis

Impact AG-1: The Project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use. This impact would be *less than significant with mitigation incorporated.*

According to DOC 2012 FMMP, the solar facility site would occupy 322 acres of Important Farmland (148 acres of Prime Farmland, 85 acres of Unique Farmland, and 89 acres of Farmland of Statewide Importance). The gen-tie corridor would also traverse designated Farmlands, crossing 28 acres of Prime Farmland.

Implementation of the PVMSP would result in the construction of the solar facility, including solar arrays, electric substations, roads, and interconnection facilities. Solar panels and interconnection facilities would be raised off the ground, but foundations for the electrical equipment, roadways, temporary laydown and parking areas, and grubbing and light grading would disturb the Project area. The Applicant does not propose to pave, remove, or significantly alter the agricultural soil that currently exists at the solar facility site. Rather, the solar panels would be built atop the relatively flat soil lots, leaving the farming soil relatively undisturbed and available for crop cultivation at the end of the Project's life, should the parcels revert to agricultural land. The PVMSP would result in the direct utilization of existing farmland, within the solar facility boundary and gen-tie corridor, for non-agricultural uses for 30 years in the unincorporated area of Riverside County. During the operation and maintenance phase of the PVMSP, the solar facility site and gen-tie corridor would continue to be utilized as a non-agricultural use, which would result in a significant impact to Important Farmland.

The proposed Project's operating life, with appropriate maintenance, repair, and component replacement, is expected to be 30 years; however, the Applicant is seeking Conditional Use Permits (CUPs) limited to a 30-year term. At the end of the 30-year operational period of the proposed Project, the PVMSP components may be decommissioned and deconstructed. Following removal of all above-ground Project components the property would be available for conversion back to agricultural use after Project decommissioning. Alternatively, if the utility buyer is available for extension or another energy buyer emerges, the PVMSP could continue to operate, and the operational impacts described in this EIR would continue indefinitely.

The potential for the PVMSP to induce the change of nearby properties to non-agricultural uses would be limited to the PVMSP Project site for three reasons: 1) the Project would not introduce a non-agricultural use that is sensitive to or incompatible with agricultural operations that would occur near the PVMSP, and would not require additional restrictions and limitations on pesticides, fungicides, and herbicides used on the crops; 2) the PVMSP would reduce water demand well below baseline; and 3) at the end of its operating life (30 years), infrastructure associated with the PVMSP solar facility would be available for reversion to agricultural use.

Implementation of Mitigation Measure AG-1 would provide various options for the Applicant to reduce the severity of the impact of the temporary loss of Important Farmland, resulting in a less than significant impact. Project operation would not add to the impacts to agricultural resources. Implementation of Mitigation Measure AG-1 would reduce the significant impacts on the agricultural resources on the solar facility site to less than significant levels.

Mitigation Measures

Implementation of Mitigation Measure AG-1 would mitigate Impact AG-1 (see *Section 3.2.8* below).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measure AG-1.

Impact AG-2: The Project could conflict with existing zoning for agricultural use, or a Williamson Act contract. This impact would be *less than significant.*

As previously described, the PVVAP applies an Agriculture land use designation to the proposed solar facility site, with parcels currently zoned W-2-10 (Controlled Development Areas [10 Acre Min.]) and A-1-10 (Light Agriculture). The PVVAP applies an Agricultural land use designation to private parcels crossed by the gen-tie corridor, with parcels zoned as W-2-5 (Controlled Development Areas [Five Acre Min.]), W-2-10 (Controlled Development Areas [Ten Acre Min.]), and A-1-10 (Light Agriculture). Within the City of Blythe, the proposed gen-tie line would traverse private parcels zoned Agriculture and Service Industrial. On BLM-managed lands, the gen-tie line would be located within CDCA Plan designated utility corridors, which are not zoned for agriculture. The solar facility site is not under a Williamson Act contract or part of a Riverside County agricultural preserve, nor would the gen-tie line traverse lands under a Williamson Act contract or lands that are part of a Riverside County agricultural preserve.

With implementation of the PVMSP, land zoned for agricultural uses would be utilized for solar power generation for a term of 30 years during the life of the Project. However, with the issuance of a Conditional Use Permit (CUP) for the PVMSP, the solar facility and gen-tie line would be allowed uses within Agricultural zones and would be consistent with zoning. Implementation of the PVMSP would not conflict with existing zoning. As such, with the current zoning or under a new zoning district, impacts would be less than significant during construction, operation, maintenance, and decommissioning. Please refer to Section 3.10, *Land Use and Planning*, for a detailed discussion regarding zoning.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact AG-3: The Project could involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or forestland to non-forest use. This impact would be *less than significant.*

The PVMSP's utilization of existing farmland for non-agricultural use during the Project's 30-year existence would not result in the conversion of adjacent farmland properties to a non-agricultural use. Of the 2,678 acres within a 0.25-mile buffer of the solar facility site, approximately 22 percent are under active agricultural cultivation. The Project would not introduce a non-agricultural use that is sensitive to or incompatible with agricultural operations that would occur nearby. Vehicle emissions can impact the health and survival of crops; however, increased vehicle emissions from Project construction and decommissioning would be temporary in duration and occur only during these activities. The Project would reduce water demand; therefore, it would not adversely affect the adjacent farmers' share of the water supply.

There is always a potential that a non-agricultural project would or could affect surrounding agricultural lands. However, the construction and operation of the PVMSP would not cause substantial changes to the existing environment such as changes to water supply, drainage, shading of adjacent lands, or other resources.

Given that the surrounding zoning is agriculture, there could be some conflict with land uses surrounding the site. Typically, non-agricultural uses may present some problems with agricultural operations. In this case, the Project's underlying fallow ground could become a nuisance if not properly maintained, both in terms of dust and weed migration. However, as stated in Impact AG-1, soil would not be removed from the sites and the Project's parcels would not become paved or significantly disturbed due to the installation of solar panels. The soil quality would be maintained throughout the life of the Project so that the parcels could be used for agricultural purposes at the end of the Project's life. On-site soils would not be disturbed during Project operations. As described in Chapter 2, soil stabilization and dust suppression methods would be implemented to ensure that dust would not become a nuisance on the proposed site or at the surrounding sites. Dust would be controlled during operations by the periodic application and maintenance of soil binders to exposed soil surfaces. Vegetation growing on the PVMSP site would be periodically removed manually and/or treated with herbicides.

Additionally, a long-term strategy for weed control and management would be implemented during operation of the Project. As part of the Project, a Weed Management Plan (BMP-10) would need to be prepared and approved by the County prior to ground-disturbing activities, and would be implemented during operation and maintenance of the gen-tie line. The Weed Management Plan would describe specific ongoing measures to remove weedy plant species from the Project area and encourage native plant growth. If herbicides are used, they would be applied in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner for application on County lands. Other than the infrequent maintenance and security visits, vehicle use in the Project area would be minimal, which would further reduce the potential for dust emissions.

The temporary removal of this property from agricultural use would not increase the total acreage of urban uses. This property would be available for reversion to agricultural use when the Project

is decommissioned. The proposed Project would not involve other changes in the existing environment which may result in the conversion of other agricultural lands to non-agricultural uses. Therefore, the Project would result in less than significant impacts involving other changes in the existing environment.

Further, the State's and region's need for renewable energy sources under AB 32 and other laws and regulations designed to address climate change would trigger conversion of other agricultural land to solar electricity generation, regardless of whether this Project is approved. The fact that the Project has secured a California Independent System Operator (CAISO) interconnection queue position sufficient for the size of the Project indicates that less capacity would be available to other proposed solar power plants, making conversion of other agricultural lands less likely.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact AG-4: The Project could cause development of non-agricultural uses within 300 feet of agriculturally zoned property (Ordinance No. 625, "Right-to-Farm"). This impact is *less than significant.*

See Impacts 3.2-2 and 3.2-3 above. The Project would cause development of non-agricultural uses within 300 feet of agriculturally zoned property, but would not create significant incompatibility impacts. The proposed renewable energy Project would be allowed as a conditional use on County lands zoned for agriculture, or would be permitted pursuant to a new zoning district. As explained above, the Project would not create use conflicts with agricultural use or otherwise interfere with use of agriculturally zoned property adjacent to the Project area. It would not lead to a determination that existing uses would be deemed a nuisance. Accordingly, the impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

3.2.7 Cumulative Impacts

The geographic extent for the consideration of cumulative effects to agricultural resources includes projects located within the Palo Verde Mesa and Palo Verde Valley and projects that would have a potential to combine with the PVMSP and result in a cumulative effect, including the Blythe Mesa Solar Project and residential developments within the City of Blythe.

The temporal scope of impacts to agricultural resources would be during the development of cumulative projects through the end of Project decommissioning, which is estimated to be 30

years, because any direct or indirect effects of the Project would only occur during the life of the Project.

Continuing development within Riverside County has resulted in the conversion of land currently utilized for agricultural production to urban and other land uses. This agricultural conversion has been a continuing trend in the County, based on DOC farmland conversion reports (Table 3.2-1). Up until a few years ago, agricultural land conversion in the County was attributable to more traditional types of development, such as residential subdivisions. Impacts resulting from construction, operation, maintenance, and decommissioning of the Project could result in a cumulative effect on agriculture with other past, present, or reasonably foreseeable future actions.

The State of California and Riverside County both seek to preserve agricultural lands, as described Section 3.2.2, *Regulatory Framework*, above. From 2010 to 2012, 15,187 acres of agricultural land were converted to another use (DOC, 2012). There are approximately 32 total projects within the cumulative geographic scope, some of which would result in the permanent conversion of agricultural land or Farmland to a non-agricultural uses. The conversion of agricultural lands, and specifically Farmland, in Riverside County from these projects would be considered a cumulatively significant impact.

The construction and operation of the PVMSP would result in the utilization of 322 acres of Important Farmland on the Palo Verde Mesa for non-agricultural use, and the construction and operation of the gen-tie line would result in the utilization of an additional 28 acres of Important Farmland for non-agricultural use. The Blythe Mesa Solar Project would include the utilization of 1,707 acres of agricultural lands for non-agricultural use. Combined, the two solar Projects would utilize 2,057 acres of agricultural lands on the Palo Verde Mesa for non-agricultural use. Implementation of the proposed Project, in combination with the Blythe Mesa Solar Project, and residential developments within the City of Blythe could include land zoned for agricultural uses that would be utilized for non-agricultural uses. However, with the issuance of a CUP, developments under the cumulative scenario would be allowed uses within Agricultural zones and would be consistent with zoning. In addition, although the Project would convert 322 acres of Farmland to non-agricultural uses, the project will not contribute to the permanent conversion of Prime Farmland, as it will not scrape the surface or damage the viability of soils. The solar arrays would be placed above ground and after the Project is decommissioned, the site will be available to be returned to agricultural uses. Further, with implementation of mitigation measures AG-1, the Project's impacts to agricultural resources would be reduced to less than significant. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the proposed Project's incremental contribution to agricultural impacts would not be cumulatively considerable.

Mitigation Measures

Mitigation Measure AG-1 would mitigate the Project's contribution toward cumulative impacts to a level that is not cumulatively considerable (*see Section 3.2.8* below).

Significance after Mitigation

The Project's contribution toward cumulative impacts would not be cumulatively considerable.

3.2.8 Mitigation Measures

AG-1 Prior to issuance of a grading permit, the Applicant shall provide written evidence of completion of at least one of the following measures to mitigate the impact to agricultural resources caused by conversion of land subject to the grading permit to non-agricultural uses. Important farmlands include Prime Farmlands, Farmlands of Statewide Importance, and Unique Farmlands as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency that is in effect as of the date of approval of the Project.

1. Acquire and record agricultural conservation easement(s) meeting the following criteria:
    a. Two acres placed under conservation easement for each net acre of Important Farmland converted to non-agricultural uses during the life of the Project. A plot plan shall be submitted substantiating the net acreage calculation, which shall be consistent with the definition of "Net Acreage" in County Policy B-29[1].
    b. Land subject to the conservation easement shall be located in Riverside County and must be of the same or higher State of California Department of Conservation farmland classification (Prime Farmland or Farmland of Statewide Importance) as the land that has been converted to non-agricultural uses.
    c. The conservation easement must be held by a third party having the capacity to hold such an easement and in an easement form acceptable to Riverside County.
    d. The Applicant must provide to the easement holder an endowment sufficient to generate funds for ongoing monitoring and enforcement of the easement.
2. Purchase of credits from an established agricultural land mitigation bank in an amount sufficient to achieve a level of protection at least equivalent to Section 1 of Mitigation Measure AG-1 above;
3. Contribution of agricultural land or equivalent funding to an organization that provides for the preservation of farmland in California in an amount sufficient to achieve a level of protection at least equivalent to Section 1 of Mitigation Measure AG-1 above; or
4. Participation in any agricultural land mitigation program adopted by Riverside County that provides equal or more effective mitigation than the measures listed above.

1 The County of Riverside's Board of Supervisor's Policy B-29 defines "Net Acreage" as all areas involved in the production of power including, but not limited to, the power block, solar collection equipment, areas contiguous to solar collection equipment, transformers, transmission lines and/or piping, transmission facilities (on and off-site), service roads regardless of surface type – including service roads between panels or collectors, structures, and fencing surrounding all such areas. Net acreage shall not include off-site access roads or areas specifically set aside either as environmentally sensitive or designated as open space, and shall not include the fencing of such set aside areas.

3.3 Air Quality

This section provides an overview of the technical methodology used in collecting baseline conditions, examines the affected environment, and presents the regulatory framework with respect to air quality. Greenhouse gas emissions are discussed in Section 3.7, *Greenhouse Gas Emissions.*

The information in this section is based on the Air Quality and Global Climate Change Technical Report for the Palo Verde Mesa Solar Project prepared by Scientific Resources Associated (SRA, 2013) and air emissions modeling conducted by ESA in 2015 using the California Emissions Estimator Model (CalEEMod). The Air Quality and Global Climate Change Technical Report and CalEEMod output is provided in Appendix C. Please refer to the report for more detailed information on the proposed Project and effects on air quality.

Assessment of potential air quality impacts is based on an evaluation of emissions associated with construction, operation, maintenance, and decommissioning of the Project, and an assessment of whether the Project's emissions would exceed significance criteria, which are discussed below. Impacts are addressed on both a maximum daily emissions level and an annual emissions level. Short-term impacts that are above the daily emissions threshold would be determined to be significant, as would impacts that exceed the annual thresholds. Impacts are addressed on the basis of the air basin/district in which emissions would occur. In addition, air emissions that could have an adverse effect on sensitive receptors have been addressed. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

3.3.1 Environmental Setting

Regional Climate

The Project would be located in eastern Riverside County, California. The climate in the PVMSP area is categorized as a high desert climate, with dry, hot summers and cool winters. The region is characterized by extreme fluctuations of daily temperatures, strong seasonal winds, and clear skies. January is the coldest month, with a mean low temperature of 37.4 degrees Fahrenheit (°F). July is the hottest month, with a mean high temperature of 108.4°F.

In late winter and early spring, the wind is a prominent feature, with dry winds blowing in the afternoon and evening. Winds in excess of 25 mph, with gusts of 75 mph or more, are not uncommon. Although it is windy during all months, November, December, and January are the calmest. During 2010, the predominant wind direction was from the south approximately 21 percent of the time, with overall average speed of 7.2 mph (Blythe Airport Wind Rose, 2010). The humidity is below 40% most of the year. During most winter nights, and during and after summer rains, the humidity can rise above 50%.

The Western Regional Climate Center (WRCC, 2005) indicates that temperature and precipitation data have been measured at Blythe from January 1931 through the present. The mean temperature

for the Blythe station is 71.6°F, and the mean annual precipitation is 3.80 inches. More than half of the precipitation occurs between November and March. Although rainfall occurs primarily in the winter months, the region is periodically influenced by tropical weather conditions including sudden monsoonal late summer storms. Monthly average temperatures and precipitation for the area are summarized in **Table 3.3-1**.

TABLE 3.3-1
MONTHLY AVERAGE TEMPERATURES AND PRECIPITATION, BLYTHE METEOROLOGICAL STATION

	Monthly Average Temperatures, °F			Precipitation, inches
Month	**Maximum**	**Minimum**	**Mean**	**Mean**
January	67.6	37.4	52.5	0.51
February	73.0	41.8	57.4	0.46
March	79.4	46.5	57.4	0.34
April	87.4	52.7	70.0	0.12
May	95.5	59.9	77.7	0.03
June	104.2	67.4	85.8	0.05
July	108.4	76.1	92.3	0.19
August	106.8	75.4	91.1	0.61
September	101.8	67.3	84.6	0.39
October	90.5	54.8	72.6	0.27
November	76.7	43.4	60.0	0.27
December	67.7	37.6	52.7	0.57
Annual	75.8	49.9	62.9	3.80

SOURCE: SRA, 2013

Overview of Air Quality Parameters

Air quality is defined by ambient air concentrations of specific pollutants determined by the U.S. Environmental Protection Agency (EPA) to be of concern with respect to the health and welfare of the general public. Seven major pollutants of concern, called "criteria pollutants," are carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), suspended particulate matter less than or equal to 10 microns in diameter (PM_{10}), fine particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$), and lead (Pb) (see **Table 3.3-2**). The EPA has established National Ambient Air Quality Standards (NAAQS) for these pollutants. Areas that violate a federal air quality standard are designated as non-attainment areas.

TABLE 3.3-2
AMBIENT AIR QUALITY STANDARDS AND HEALTH EFFECTS

Pollutant	California Standards	National Standards [a]		Most Relevant Health Effects
		Primary [b,c]	Secondary [b,d]	
Ozone (O_3)	0.070 ppm, 8-hour average; (137 µg/m^3)	0.075 ppm, 8-hour average; (147 µg/m^3)	Same as primary	O_3 is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma and increase susceptibility to respiratory infections. Exposure to levels of ozone above the current ambient air quality standard can lead to human health effects such as lung inflammation, tissue damage, impaired lung function, coughing, chest tightness, shortness of breath, and the worsening of asthma symptoms. Harmful health effects are associated with outdoor workers, athletes, children and others who spend greater amounts of time outdoors during smoggy periods.
	0.09 ppm, 1-hour average; (180 µg/m^3)	—	—	
Carbon monoxide (CO)	9.0 ppm, 8-hour average; (10 mg/m^3)	9 ppm, 8-hour average; (10 mg/m^3)	—	Exposure to CO near the levels of the ambient air quality standards can lead to fatigue, headaches, confusion, and dizziness. CO interferes with the blood's ability to carry oxygen. Exposure to CO is especially harmful to those with heart disease and has been associated with aggravation of angina pectoris and other aspects of coronary heart disease, decreased exercise tolerance in people with peripheral vascular disease and lung disease, impairment of central nervous system functions, and possible increased risk to fetuses.
	20 ppm, 1-hour average; (23 mg/m^3)	35 ppm (40 mg/m^3)	—	
Nitrogen dioxide (NO_2)	0.030 ppm, Annual Arithmetic Mean; (56 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as primary	NO_2 is a respiratory irritant and may affect those with existing respiratory illness, including asthma. Exposure to NO_2 along with other traffic-related pollutants, is associated with respiratory symptoms, episodes of respiratory illness and impaired lung functioning.
	0.18 ppm, 1-hour average, 1-hour average; (338 µg/m^3)	0.100 ppm (188 µg/m^3)	—	
Sulfur dioxide (SO_2)	0.04 ppm, 24-hour average (105 µg/m^3)	—	—	Effects from SO_2 exposures at levels near the one-hour standard include bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Children, the elderly, and people with asthma, cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most susceptible to these symptoms. SO_2 is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease.
	----	—	0.5 ppm, 3-hour average (1,300 µg/m^3)	
	0.25 ppm, 1-hour average; (655 µg/m^3)	0.075 ppm (196 µg/m^3)	—	
PM_{10}	Annual Arithmetic Mean; 20 µg/m^3,	—	—	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children
	24-hour average, 50 µg/m^3	150 µg/m^3	Same as primary	

TABLE 3.3-2
AMBIENT AIR QUALITY STANDARDS AND HEALTH EFFECTS

Pollutant	California Standards	National Standards [a]		Most Relevant Health Effects
		Primary [b,c]	Secondary [b,d]	
$PM_{2.5}$[(e)]	Annual Arithmetic Mean; 12 µg/m^3	12.0 µg/m^3	Same as primary	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children
	—	35 µg/m^3, 24-hour average	Same as primary	
Lead	—	0.15 µg/m^3, rolling 3-month average	Same as primary	Because lead is only slowly excreted, exposures to small amounts of lead from a variety of sources can accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms can include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children. Lead is also classified as a probable human carcinogen.
	—	1.5 µg/m^3, calendar quarter	Same as primary	
	30-day average; 1.5 µg/m^3	—	—	
Hydrogen Sulfide	0.03 ppm, 1-hour average; (42 µg/m^3)	—	—	Breathing H2S at levels above the standard would result in exposure to a very disagreeable odor. CARB has concluded that the ambient standard for H2S is adequate to protect public health.

(a) Standards other than the 1-hour ozone, 24-hour PM_{10}, 24-hour $PM_{2.5}$, and those based on annual averages are not to be exceeded more than once a year. The 8-hour ozone national standard has replaced the 1-hour ozone national standard.
(b) Concentrations are expressed first in units in which they were promulgated. Equivalent units given in parenthesis.
(c) Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than three years after that state's implementation plan is approved by the EPA.
(d) Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
(e) The NAAQS for $PM_{2.5}$ was lowered to 12 µg/m^3 in December, 2012.

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

Pollutant emissions typically refer to the amount of pollutants or pollutant precursors introduced into the atmosphere by a source or group of sources. Pollutant emissions contribute to the ambient air concentrations of criteria pollutants, either by directly affecting the pollutant concentrations measured in the ambient air or by interacting in the atmosphere to form criteria pollutants. Primary pollutants, such as CO, SO_2, Pb, and some particulates, are emitted directly into the atmosphere from emission sources.

Secondary pollutants, such as O_3, NO_2, and some particulates, are formed through atmospheric chemical reactions that are influenced by meteorology, ultraviolet light, and other atmospheric processes. PM_{10} and $PM_{2.5}$ are generated as primary pollutants by various mechanical processes (for example, abrasion, erosion, mixing, or atomization) or combustion processes. However, PM_{10} and $PM_{2.5}$ can also be formed as secondary pollutants through chemical reactions or by gaseous pollutants condensing into fine aerosols.

In general, emissions that are considered “precursors” to secondary pollutants in the atmosphere (such as reactive organic gases [ROG] and oxides of nitrogen [NO_x], which are considered precursors for O_3) are the pollutants for which emissions are evaluated to control the level of O_3 in the ambient air.

Toxic air contaminants (TACs) are substances with the potential to be emitted into the ambient air that have been determined to present some level of acute or chronic health risk (cancer or non-cancer) to the general public. These pollutants may be emitted in trace amounts from various types of sources, including combustion sources. TACs that may be produced by construction and operation of the proposed Project are listed in **Table 3.3-3**, including the most relevant health effects.

TABLE 3.3-3
TOXIC AIR CONTAMINANTS AND HEALTH EFFECTS

Contaminant	Characteristics	Most Relevant Health Effects
Sulfates	A fully oxidized ionic form of sulfur primarily derived from combustion of petroleum based fuels.	Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms and an increased risk of cardio-pulmonary disease.
Vinyl Chloride	A chlorinated hydrocarbon that is a colorless gas with a mild, sweet odor.	Short-term exposure to high levels of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness and headaches. Long-term exposure through inhalation and oral exposure causes liver damage. Cancer is a major concern from exposure via inhalation.
Visibility Reducing Particles	Suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid.	No specific health effects noted.
Benzene	Benzene is found in the air from emissions from burning coal and oil, gasoline service stations, and motor vehicle exhaust.	Short-term inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Long-term inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia, in occupational settings. Reproductive effects and increased incidences of leukemia have been observed in humans occupationally exposed to benzene. A Group A human carcinogen.
Formaldehyde	Formaldehyde exposure may occur by breathing contaminated indoor air, tobacco smoke, or ambient urban air.	Short-term and long-term inhalation exposure to formaldehyde in humans can result in respiratory symptoms, and eye, nose, and throat irritation. Short-term high exposure may lead to eye, nose and throat irritation, and in the respiratory tract, nasal obstruction, pulmonary edema and dyspnea. Prolonged or repeated exposures have been associated with allergic sensitization, respiratory symptoms, and decrements in lung function. A Group B1 probable human carcinogen.
Diesel Particulate Matter	Diesel particulate matter is emitted from both mobile and stationary sources of diesel powered on-road and off-road equipment.	Occupational exposures to diesel exhaust particles have been associated with significant cross-shift decreases in lung function. Increased cough, labored breathing, chest tightness, and wheezing have been associated with exposure to diesel exhaust in bus garage workers. A number of adverse long-term non-cancer effects have been associated with exposure to diesel exhaust. Occupational studies have shown that there may be a greater incidence of cough, phlegm and chronic bronchitis among those exposed to diesel exhaust than among those not exposed. Reductions in pulmonary function have also been reported following occupational exposures in chronic studies. Exposure to diesel exhaust has also shown cellular changes in laboratory animals.
Acrolein	Acrolein is a powerful irritant.	Short-term exposures to levels above 1 ppm result in mucous hypersecretion and exacerbation of allergic airway response in animal models. Moderately higher exposures may result in severe lacrimation, and irritation of the mucous membranes of the respiratory tract. Death due to respiratory failure has been associated with high level exposures. Long term exposure to acrolein may result in structural and functional changes in the respiratory tract, including lesions in the nasal mucosa, and pulmonary inflammation.

TABLE 3.3-3
TOXIC AIR CONTAMINANTS AND HEALTH EFFECTS

Contaminant	Characteristics	Most Relevant Health Effects
1,3–Butadiene	Motor vehicle exhaust is a constant source of 1,3-butadiene. Although 1,3-butadiene breaks down quickly in the atmosphere, it is usually found in ambient air at low levels in urban and suburban areas.	Short-term exposure to 1,3-butadiene by inhalation in humans results in irritation of the eyes, nasal passages, throat, and lungs. The USEPA has classified 1,3-butadiene as carcinogenic to humans by inhalation.
Naphthalene	Naphthalene is used in the production of phthalic anhydride; it is also used in mothballs.	Short-term exposure of humans to naphthalene by inhalation, ingestion, and dermal contact is associated with hemolytic anemia, damage to the liver, and neurological damage. Cataracts have also been reported in workers acutely exposed to naphthalene by inhalation and ingestion. Long-term exposure of workers and rodents to naphthalene has been reported to cause cataracts and damage to the retina. Hemolytic anemia has been reported in infants born to mothers who "sniffed" and ingested naphthalene (as mothballs) during pregnancy. A Group C, possible human carcinogen.
Polycyclic Organic Matter (POM)	The term polycyclic organic matter (POM) defines a broad class of compounds that includes the polycyclic aromatic hydrocarbon compounds (PAHs), of which benzo[a]pyrene is a member. POM compounds are formed primarily from combustion and are present in the atmosphere in particulate form. Sources of air emissions are diverse and include cigarette smoke, vehicle exhaust, home heating, laying tar, and grilling meat.	Cancer is the major concern from exposure to POM. Epidemiologic studies have reported an increase in lung cancer in humans exposed to coke oven emissions, roofing tar emissions, and cigarette smoke; all of these mixtures contain POM compounds. Animal studies have reported respiratory tract tumors from inhalation exposure to benzo[a]pyrene and forestomach tumors, leukemia, and lung tumors from oral exposure to benzo[a]pyrene. The USEPA has classified seven PAHs (benzo[a]pyrene, benz[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, and indeno[1,2,3-cd]pyrene) as Group B2, probable human carcinogens.

SOURCE: SRA 2013

Existing Air Quality

The proposed Project is located within the Mojave Desert Air Quality Management District (MDAQMD), which collects ambient air quality data from several air quality monitoring stations within its jurisdiction. The closest monitoring site to the Project is located at 445 West Murphy Street in Blythe and measures O_3. The nearest monitoring station that measures $PM_{2.5}$ is located in Victorville; measurements in Victorville are not likely to be representative of conditions in the Project area. The nearest monitoring station that measures CO, NO_2, and PM_{10} is located in Barstow, which may also be substantially different from conditions in Blythe. According to the Northern and Eastern Colorado Desert Coordinated Management Plan (NECO Plan), the ozone standard is exceeded due to long-distance transport of pollutants from the Los Angeles Basin, while the PM_{10} standard is due to natural sources found in a desert environment and various land uses. These uses include off-highway vehicle use, mining, agricultural use, and livestock grazing. The PM_{10} concentrations are from fugitive dust emission sources, rather than from combustion particulate or secondary particulate emission sources. **Table 3.3-4** provides a summary of available ambient air quality data for the Project region.

TABLE 3.3-4
SUMMARY OF AVAILABLE AIR QUALITY DATA FOR THE PROJECT AREA (2010-2015)

Air Quality Indicator	2010	2011	2012	2013	2014	2015
Ozone (O_3)[1,3]						
Peak 1-hour value (ppm)	0.072	0.066	0.084	0.065	0.093	0.074
Days above state standard (0.09 ppm)	0	0	0	0	0	0
Peak 8-hour value (ppm)	0.067	0.061	0.077	0.061	0.084	0.067
Days above state standard (0.070 ppm)	0	0	12	0	16	0
Days above federal standard (0.075 ppm)[1,2]	0	0	2	0	8	0
Particulate matter less than or equal to 10 microns in diameter (PM_{10})[4]145.5						
Peak 24-hour value ($\mu g/m^3$)	38	108	85.6	42.0	305.8	145.5
Days above state standard (50 $\mu g/m^3$)	0	2	1	0	*	*
Days above federal standard (150 $\mu g/m^3$)	0	0	0	0	1	0
Annual Arithmetic Mean (ppm)	18.8	21.5	24.8	24.8	27.7	23.5
Carbon Monoxide[4]						
Peak 8-hour value ($\mu g/m^3$)	0.89	1.35	0.66	*	*	*
Days above state and federal standard (9 ppm)	0	0	0	*	*	*
Peak 1-hour value ($\mu g/m^3$)	1.1	4.3	1.18	*	*	*
Days above state standard (20 ppm)	0	0	0	*	*	*
Days above federal standard (35 ppm)	0	0	0	*	*	*
Nitrogen Dioxide (NO_2) [4]						
Peak 1-hour value (ppm)	0.062	0.072	0.146	0.084	0.069	0.061
Days above state standard (0.18 ppm)	0	0	0	0	0	0
Annual Arithmetic Mean (ppm)	0.017	0.017	0.017	0.017	0.017	0.016

[1] The federal O_3 standard was revised downward in 2008 to 0.075 ppm.
[2] The federal eight-hour ozone standard was previously defined as 0.08 ppm (1 significant digit). Measurements were rounded up or down to determine compliance with the standard; therefore, a measurement of 0.084 ppm is rounded to 0.08 ppm. The 8-hour ozone ambient air quality standards are met at an ambient air quality monitoring site when the average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to the standard.
[3] Data from the Blythe monitoring station.
[4] Data from the Barstow monitoring station. Data for 1-hour CO concentrations unavailable. CO is not reported in at any stations in the area subsequent to 2012.
ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; * = not available

SOURCE: CARB 2016

Areas that do not meet the NAAQS or California Ambient Air Quality Standards (CAAQS) for a given criteria pollutant are designated as “non-attainment areas” by the EPA and/or the California Air Resources Board (CARB). Further classifications are given to non-attainment areas to identify the severity and number of violations experienced, and the year in which attainment is anticipated based on implementation of attainment plans. In circumstances where there is not enough ambient data available to support designation as either attainment or non-attainment, the area can be designated as unclassified. An unclassified area is normally treated by the EPA the same as an attainment area for regulatory purposes. The air basin for the Project area is considered an unclassified/attainment area for all of the NAAQS. The Project area is considered a

moderate non-attainment area for the CAAQS for O_3 and a non-attainment area for the CAAQS for PM_{10}. The area is considered unclassified/attainment for all CAAQS for the other criteria pollutants.

Sensitive Receptors

Sensitive receptors are people who are considered to be more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. Recreational uses are also considered sensitive due to the greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system.

The site is located in proximity to rural agricultural lands, undeveloped lands, uses associated with the Blythe Airport, power generation, local roads, and interstate highway and other non-sensitive uses. However, some sensitive air quality receptors are located within one mile of the Project. There are 222 residences within one mile of the solar facility site and gen-tie line, seven of which are individual residences located within 1,000 feet (refer to Figure 3.11-1 in Section 3.11, *Noise*). The solar facility site is approximately 230 feet away from the closest residence, 3,200 feet (0.6 mile) from Palo Verde College, and 1.5 miles from the Blythe Municipal Golf Course. The gen-tie line would be located approximately 0.4 mile (2,220 feet) from the Mesa Verde Park and approximately 0.8 mile (4,400 feet) from the Roy Wilson Community and Child Center. No hospitals or convalescent homes are located within one mile of the proposed Project.

3.3.2 Regulatory Setting

Air quality in the Project area is regulated by federal, State, and local regulatory agencies with the responsibility for maintaining ambient air quality within federal and State standards. The EPA is the federal agency responsible for establishing air quality regulations on a federal level. The federal Clean Air Act (CAA) and its subsequent amendments establish air quality regulations and the NAAQS and delegate the enforcement of these standards to the states. In California, the CARB is responsible for enforcing air pollution regulations. The CARB has in turn delegated the responsibility of regulating stationary emission sources to regional air agencies. In the Project area, which is located in eastern Riverside County, the MDAQMD has this responsibility.

The following sections summarize the air quality rules and regulations that apply to the Project.

Federal

The federal CAA applies to all air emission sources and to all areas within the United States. Regulations adopted under the CAA that would apply to the Project would include the NAAQS as well as other requirements that have been adopted as part of the MDAQMD's federally approved plans and programs.

As indicated in Federal Register Volume 75, No. 11, Page 2938, the EPA is considering lowering the 8-hour O_3 standard from 0.075 ppm, which is its current level, to a lower level within the range of 0.060 and 0.070 ppm. The lower level is proposed to provide increased protection for children and other "at risk" populations against O_3 health effects.

Federal Emission Standards

The EPA has also adopted on-road and off-road engine emission reduction requirements, including Federal Exhaust and Evaporative Emission Standards for Light-Duty Vehicles and Light-Duty Trucks, Federal Emission Standards for Heavy-Duty and Non-road Engines, and other emission control programs that affect the Project's potential impacts to air quality through the phase-in of clean fuel and engine requirements.

General Conformity Rule

The General Conformity Rule (40 CFR Part 93) requires that federal agencies demonstrate that federal actions conform with the applicable State Implementation Plan (SIP) in order to ensure that federal activities do not hamper local efforts to control air pollution. The EPA general conformity rule applies to federal actions occurring in nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. The *de minimis* emission thresholds are based on the attainment status of each air basin. Since the Project is located in an air basin that is designated attainment for all federal criteria pollutants, it is not subject to the General Conformity emissions thresholds.

State

The CARB has oversight over air quality in the state of California, and has established the California Clean Air Act (CCAA). The CCAA was signed into law in 1988 and, for the first time, clearly spelled out in statute California's air quality goals, planning mechanisms, regulatory strategies, and standards of progress. The CCAA provides the State with a comprehensive framework for air quality planning regulation. Prior to passage of the CCAA, federal law contained the only comprehensive planning framework. As part of its authority within the state of California, and as allowed under the federal CAA, the CARB has established the CAAQS. The CAAQS are at least as stringent as the NAAQS. Both the NAAQS and CAAQS are shown in Table 3.3-2.

The CARB is responsible for the development of the SIP, which provides a framework for attaining and maintaining the NAAQS within the state of California. In turn, development of individual inputs to the SIP is the responsibility of local air pollution control agencies. Regulation of individual stationary sources has been delegated to local air pollution control agencies.

The CARB is responsible for developing programs designed to reduce emissions from non-stationary sources, including motor vehicles and off-road equipment. The CARB and the California Office of Environmental Health Hazard Assessment (OEHHA) are also responsible for developing regulations governing TACs. TACs include air pollutants that can cause serious illnesses or increased mortality, even in low concentrations. The CARB and OEHHA identify

specific air pollutants as TACs, develop health thresholds for exposure to TACs, and develop guidelines for conducting health risk assessments for sources of TAC emissions.

Local

As discussed above, the Project would be located in the jurisdiction of the MDAQMD. The MDAQMD is responsible for regulating stationary sources of air emissions in the Project area. Stationary sources that have the potential to emit air pollutants into the ambient air are subject to the Rules and Regulations adopted by the MDAQMD. The following MDAQMD rules are applicable to the Project.

Rule 401 – Visible Emissions

Rule 401 states that a person shall not discharge into the atmosphere, from any single source of emissions whatsoever, any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

(a) As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines, or

(b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection A [of the Rules].

Rule 402 – Nuisance

Rule 402 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 403 – Fugitive Dust

Rule 403 requires control of fugitive dust emissions during activities such as construction that have the potential to generate dust. The provisions of Rule 403 include the following:

(a) A person shall not cause or allow the emissions of fugitive dust from any transport, handling, construction or storage activity so that the presence of such dust remains visible in the atmosphere beyond the property line of the emission source. (This does not apply to emissions emanating from unpaved roadways open to public travel or farm roads. This exclusion shall not apply to industrial or commercial facilities).

(b) A person shall take every reasonable precaution to minimize fugitive dust emissions from wrecking, excavation, grading, clearing of land and solid waste disposal operations.

(c) A person shall not cause or allow particulate matter to exceed 100 micrograms per cubic meter when determined as the difference between upwind and downwind samples collected on high volume samplers at the property line for a minimum of five hours.

(d) A person shall take every reasonable precaution to prevent visible particulate matter from being deposited upon public roadways as a direct result of their operations. Reasonable

precautions shall include, but are not limited to, the removal of particulate matter from equipment prior to movement on paved streets or the prompt removal of any material from paved streets onto which such material has been deposited.

(e) Subsections (a) and (c) shall not be applicable when the wind speed instantaneously exceeds 40 kilometers (25 miles) per hour, or when the average wind speed is greater than 24 kilometers (15 miles) per hour. The average wind speed determination shall be on a 15 minute average at the nearest official air-monitoring station or by wind instrument located at the site being checked.

(f) The provisions of this rule shall not apply to agricultural operations.

Rule 403.2 also requires that the owner/operator of a Construction/Demolition source disturbing 100 or more acres shall, in addition to the provisions of subsection (2):

(a) Prepare and submit to the MDAQMD, prior to commencing Earth-Moving Activity, a dust control plan that describes all applicable dust control measures that will be implemented at the project;

(b) Provide Stabilized access route(s) to the project site as soon as is feasible. For purposes of this Rule, as soon as is feasible shall mean prior to the completion of Construction/Demolition activity;

(c) Maintain natural topography to the extent possible;

(d) Construct parking lots and paved roads first, where feasible; and

(e) Construct upwind portions of project first, where feasible.

Rule 404 – Particulate Matter Concentration

Rule 404 restricts emissions of particulate matter from any source based on the concentrations specified in Table 404(a).

Rule 405 – Solid Particulate Matter Weight

Rule 405 restricts emissions of particulate matter from any source based on the concentrations specified in Table 405(a).

Rule 406 – Specific Contaminants

Rule 406 restricts emissions of sulfur compounds to 500 ppm or less, and restricts emissions of halogens, which are not generally emitted from construction projects.

Rule 407 – Liquid and Gaseous Air Contaminants

Rule 407 restricts emissions of carbon monoxide to 2,000 ppm or less.

Rule 408 – Circumvention

Rule 408 restricts the building, erection, installation, or use of any equipment, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission that would otherwise constitute a violation of Chapter 3 (commencing

with Section 41700) of Part 4, of Division 26 of the Health and Safety Code or of the MDAQMD Rules.

Rule 409 – Combustion Contaminants

Rule 409 restricts discharge into the atmosphere from the burning of fuel, combustion contaminants exceeding 0.23 gram per cubic meter (0.1 grain per cubic foot) of gas calculated to 12 percent of CO_2 at standard conditions averaged over a minimum of 25 consecutive minutes.

Rule 431 – Sulfur Content of Fuels

Rule 431 restricts the use of any gaseous fuel containing sulfur compounds in excess of 800 ppm calculated as hydrogen sulfide at standard conditions, or any liquid or solid fuel having sulfur content in excess of 0.5 percent by weight.

Rule 442 – Usage of Solvents

Rule 442 restricts the emission of VOCs from any solvent material to 1,190 pounds per month, and requires proper storage and handling of VOC-containing solvents.

Riverside County General Plan

The Riverside County General Plan Air Quality Element includes policies that limit emissions within the County boundaries. The goal is to support efforts to decrease region-wide pollution emissions, as surrounding jurisdictions significantly impact Riverside County's air quality. Policies were designed to establish a regional basis for improving air quality. The Riverside County General Plan's Air Quality Element discusses the following applicable policies regarding air quality within Riverside County:

Air Quality Element

Policy AQ 1.1. Promote and participate with regional and local agencies, both public and private, to protect and improve air quality.

Policy AQ 1.4. Coordinate with the SCAQMD and MDAQMD to ensure that all elements of air quality plans regarding reduction of air pollution emissions are being enforced.

Policy AQ 1.5. Establish and implement air quality, land use and circulation measures that improve not only the Riverside County's environment but the entire region.

Policy AQ 2.1. The County land use planning efforts shall assure that sensitive receptors are separated and protected from polluting point sources to the greatest extent possible.

Policy AQ 2.2. Require site plan designs to protect people and land uses sensitive to air pollution through the use of barriers and/or distance from emissions sources when possible.

Policy AQ 2.3. Encourage the use of pollution control measures such as landscaping, vegetation and other materials, which trap particulate matter or control pollution.

Policy AQ 4.1. *Require* Encourage the use of *all feasible* building materials/methods which reduce emissions.

Policy AQ 4.5. Require stationary pollution sources to minimize the release of toxic pollutants through:

- Design features;
- Operating procedures;
- Preventive maintenance;
- Operator training; and
- Emergency response planning

Policy AQ 4.6. Require stationary air pollution sources to comply with applicable air district rules and control measures.

Policy AQ 4.7. To the greatest extent possible, require every project to mitigate any of its anticipated emissions which exceed allowable emissions as established by the SCAQMD, MDAQMD, SOCAB *SCAB*, the Environmental Protection Agency and the California Air Resources Board.

Policy AQ 4.9. Require compliance with SCAQMD Rules 403 and 403.1, and support appropriate future measures to reduce fugitive dust emanating from construction sites.

Policy AQ 4.10. Coordinate with the SCAQMD and MDAQMD to create a communications plan to alert those conducting grading operations in the County of first, second, and third stage smog alerts, and when wind speeds exceed 25 miles per hour. During these instances all grading operations should be suspended.

Policy AQ 5.1. Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.

Policy AQ 5.4. Encourage the incorporation of energy-efficient design elements, including appropriate site orientation and the use of shade and windbreak trees to reduce fuel consumption for heating and cooling.

Policy AQ 16.1. Cooperate with local, regional, state and federal jurisdictions to better control particulate matter.

Policy AQ 16.2. Encourage stricter state and federal legislation on bias belted tires, smoking vehicles, and vehicles that spill debris on streets and highways, to better control particulate matter.

Policy AQ 16.3. Collaborate with the SCAQMD and MDAQMD to require and/or encourage the adoption of regulations or incentives to limit the amount of time trucks may idle.

Policy AQ 16.4. Collaborate with the EPA, SCAQMD, MDAQMD, and warehouse owners and operators to create regulations and programs to reduce the amount of diesel fumes released due to warehousing operations.

Policy AQ 17.1. Reduce particulate matter from agriculture, construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way, and off-road vehicles to the extent possible.

Policy AQ 17.3. Identify and create a control plan for areas within the County prone to wind erosion of soil.

Policy AQ 17.4. Adopt incentives, regulations and/or procedures to manage paved and unpaved roads and parking lots so they produce the minimum practicable level of particulates.

Policy AQ 17.8. Adopt regulations and programs necessary to meet state and federal guidelines for diesel emissions.

Land Use Element

Countywide policies that address air quality within the County boundaries are also located in the Land Use Element (LU) of the County General Plan, and include:

Policy LU 6.17.1 Require land uses to develop in accordance with the General Plan and area plans to ensure compatibility and minimize impacts.

Policy LU7.2 Notwithstanding the Public Facilities designation, public facilities shall also be allowed in any other land use designation except for the Open Space-Conservation and Open Space- Conservation Habitat land use designations. For purposes of this policy, a public facility shall include all facilities operated by the federal government, the State of California, the County of Riverside, any special district governed by or operating within the County of Riverside or any city, and all facilities operated by any combination of these agencies.

Policy LU 7.4. Retain and enhance the integrity of existing residential, employment, agricultural, and open space areas by protecting them from encroachment of land uses that would result in impacts from noise, noxious fumes, glare, shadowing, and traffic.

Policy LU 11.2. Ensure adequate separation between pollution producing activities and sensitive emission receptors, such as hospitals, residences, child care centers and schools.

Policy LU 11.5. Ensure that all new developments reduce Greenhouse Gas emissions as prescribed in the Air Quality Element and Climate Action Plan.

City of Blythe 2025 General Plan

City policies in the City of Blythe General Plan 2025 (2015) related to air quality are located in the Open Space Element, Guiding Policies of the City General Plan, and include:

Open Space and Conservation Element

Policy 11: Strive to meet all regional and federal ambient air quality standards and reduce the generation of air pollutants.

Policy 14: Whenever feasible, coordinate air quality, transportation, and land use planning efforts with other jurisdictions and public agencies responsible for air quality management.

3.3.3 Methodology for Analysis

Potential effects on air quality may occur as a result of emissions of criteria pollutants from the construction, operation, maintenance, and decommissioning components of the PVMSP. To assess those effects, emissions of criteria pollutants were estimated based on the Project construction and operation assumptions (see Appendix C, Air Quality and Global Climate Change Report). Additionally, qualitative analyses were performed to determine the significance of potential hazardous air pollutant emissions and odors from the proposed Project.

Construction Emissions

Criteria Pollutant Emissions

Construction of the proposed Project would result in emissions of the following criteria air pollutants: VOCs/ROG, NO_x, CO, PM_{10}, $PM_{2.5}$, and SO_x. The emissions analysis is based on assumptions included in the Project Description and the Air Quality and Global Climate Change Report (Appendix C). Estimated emissions in the Air Quality and Global Climate Change Report were updated to reflect current emission factors (EMFAC2011 and OFFROAD2011) using CalEEMod version 2013.2.2, with outputs included in Appendix C. Notably, the criteria pollutants hydrogen sulfide and lead would not be generated during construction, operations, or decommissioning and are not evaluated further.

The emissions from construction of all Project components are included in the analysis. As explained in Chapter 2, construction of the entire 14.5-mile transmission line is studied as part of the PVMSP. This is a conservative assumption since, if the BMSP's double-circuit 230 kV transmission line poles are approved prior to construction of the PVMSP, the PVMSP could use 9.1 miles of the vacant circuit position and only construct 5.6 miles of new transmission line for the PVMSP. The projections used in calculating construction emissions are as follows:

- Off road equipment (heavy construction equipment) would be similar to that used in other PV solar projects for site preparation, installation of the solar array, construction of the gen-tie line, and construction of the substation and operation and maintenance (O&M) buildings (refer to Appendix C for a detailed list of construction equipment).
- It was projected that watering two times daily would control PM_{10} and $PM_{2.5}$ emissions by 55 percent, per the CalEEMod defaults. In addition, through the implementation of Rule 403, fugitive dust control measures must be utilized to reduce emissions of particulate matter during construction.
- As described in the Project Description, for the purpose of estimating maximum daily traffic, it was conservatively assumed that the maximum number of employees (500)

could arrive in a single day, resulting in 400 round trips per day. It was also assumed that 20 truck trips could occur in a single day (this information is consistent with the parameters used in the Traffic Impact Study Report prepared by KOA in June 2013).

- As described in the Project Description, workers and haul dump trucks were assumed to travel 40 miles per round trip. The majority of vendor trucks for material delivery were assumed to travel 60 miles per round trip, with vendor trucks for transmission line materials assumed to travel an average of 120 miles per round trip. These assumptions were also used in the Traffic Impact Study Report prepared by KOA in June 2013.
- For fugitive dust, it was assumed that 157 acres (project site and access roads) could be disturbed on a daily basis. In addition, per the Air Quality and Global Climate Change Report, a total of 1,425,600 cubic yards of soils would be excavated on site. Soils were assumed to be balanced on site.
- Off-road equipment engines were assumed to meet U.S. Environmental Protection Agency (EPA) Tier 2 emissions standards, at a minimum, per the CalEEMod defaults.

Operational Emissions

Criteria Pollutant Emissions

Operations and maintenance include general operational activities in support of the site, as well as periodic washing of the solar panels. After the construction phase, the O&M buildings would serve the Project's approximately 12 permanent full-time employees, which would include one plant manager, five engineers/technicians, and six security staff. Project facilities would be monitored during operating (daylight) hours, even though the Project facilities would be capable of automatic start up, shutdown, self-diagnosis, and fault detection. The panels may be cleaned up to two times per year, if necessary to optimize output. O&M vehicles would include trucks (pickup and flatbed), forklifts, and loaders for routine and unscheduled maintenance and water trucks for solar panel washing. Large heavy-haul transport equipment may be brought to the solar facility infrequently for equipment repair or replacement. Fugitive dust would be generated from vehicles and equipment on unpaved surfaces. CalEEMod 2013.2.2 was used to estimate operational criteria pollutant emissions, with model outputs included in Appendix C.

Decommissioning Emissions

Criteria Pollutant Emissions.

The emissions associated with decommissioning of the solar array would be generated from disassembly and removal of solar panels, foundations, and other structures such as the substations, support buildings, piles, inverters and pads, and perimeter fencing. After removal of all equipment and buildings, the Project site would be made available for reversion to agricultural use. The equipment used for decommissioning would be similar to that used for construction. Land alteration would be minimal and no grading and clearing would be required. Since decommissioning would not involve grading or clearing activities and equipment used in the future is likely to be much more efficient than that currently used, the level of decommissioning emissions would be substantially less than emissions created during construction.

3.3.4 Applicable Best Management Practices

As part of the Project, the following applicable BMPs would minimize the environmental impacts to air quality. The BMPs have been detailed below (*see also Table 2-4 in Chapter 2*) and are further referenced (by number) within the impact discussion.

BMP-1 **Drainage, Erosion, and Sedimentation Control Plan**. As part of the County of Riverside's Conditional Use Permit (CUP) requirements, a Drainage, Erosion, and Sedimentation Control Plan would be developed for the Project. The project shall implement Site design and Source control BMPs according to County Standards. The plan would address the drainage, erosion, and sediment control requirements to support all activities associated with construction, operation, maintenance, and decommissioning of the Project. For example, any stockpiles created would be kept on site, with an upslope barrier in place to divert runoff. Stockpiles would be sprayed with water, covered with tarpaulins, and/or treated with appropriate dust suppressants, especially in preparation for high wind or storm conditions. Certified weed-free straw bale barriers would be installed to control sediment in runoff water; straw bale barriers would be installed only where sediment-laden water can pond, thus allowing the sediment to settle out. Topsoil from the site would be stripped, stockpiled, and stabilized before excavating earth for facility construction. Topsoil would be segregated and spread on freshly disturbed areas to reduce color contrast and aid rapid revegetation. The Drainage, Erosion, and Sedimentation Control Plan shall also include site design and source control BMPs that minimize the potential for erosion and off-site sedimentation.

BMP-3 **Fugitive Dust Abatement Plan.** As required by the Mojave Desert Air Quality Management District Rule 403, a Fugitive Dust Abatement Plan would be prepared to address fugitive dust emissions during Project construction, operation, maintenance, and decommissioning. The plan would include measures to minimize fugitive dust emissions from wrecking, excavation, grading, clearing of land, and solid waste disposal operations, and would take every reasonable precaution to prevent visible particulate matter from being deposited upon public roadways as a direct result of operations. During construction, all unpaved roads, disturbed areas (e.g., areas of scraping, excavation, backfilling, grading, and compacting), and loose materials generated during Project construction activities would be watered as frequently as necessary to minimize fugitive dust generation. However, the amount of water will be minimized each time to prevent temporarily ponding water that may occur as a result of the fugitive dust plan. In water-deprived locations, water spraying would be limited to active disturbance areas only, and non-water-based dust control measures would be implemented in areas with intermittent use or use that is not heavy, such as stockpiles or access roads. The dust suppression measures would consider the sensitivity of wildlife to the windborne dispersal of fugitive dust containing dust suppressants and the potential impact on future reclamation.

The Dust Abatement Plan includes three specific measures (BMP 3.1 through BMP 3.3) as listed below:

BMP-3.1 The following signage shall be erected not later than the commencement of construction. A minimum 48 inch high by 96 inch wide sign

containing the following shall be located within 50 feet of each Project site entrance, meeting the specified minimum text height, black text on white background, on one inch A/C laminated plywood board, with the lower edge between six and seven feet above grade, with the contact name of a responsible official for the site and a local or toll-free number that is accessible 24 hours per day:

"[Site Name] {four inch text}

[Project Name/Project Number] {four inch text}

IF YOU SEE DUST COMING FROM {four inch text}

THIS PROJECT CALL: {four inch text}

[Contact Name], PHONE NUMBER XXX-XXXX {six inch text}

If you do not receive a response, Please Call {three inch text}

The MDAQMD at 1-800-635-4617 {three inch text}"

BMP-3.2 For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization, durable polymeric soil stabilizers, or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from sand/fines deposits.

BMP-3.3 All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The owner/ operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule or project-specific biological mitigation prohibiting wind fencing.

BMP-13 **Ground and surface disturbance.** Construction boundaries would be clearly delineated to minimize areas of ground and surface disturbance. Ground-disturbing activities shall be minimized, especially during the rainy season. To the maximum extent possible, construction-related activities (such as vehicle and foot traffic) would avoid areas with intact biological soil crusts. For cases in which impacts cannot be avoided, soil crusts would be salvaged and restored on the basis of recommendations by the County of Riverside and BLM once construction has been completed. Existing rocks, vegetation, and drainage patterns shall be preserved to the maximum extent possible. No paint or permanent discoloring agents shall be applied to rocks or vegetation (to indicate surveyor construction activity limits or for any other purpose). All stakes and flagging shall be removed from the construction area and disposed of in an approved facility. Where feasible, Brush-beating, mowing, or use of protective surface matting rather than removing vegetation shall be employed. Clearing and disturbing of sensitive areas (e.g., steep slopes and natural drainages) and other areas

shall be avoided outside the construction zone. Surface disturbance would be minimized by utilizing undulating surface disturbance edges; stripping, salvaging, and replacing topsoil; using contoured grading; controlling erosion; using dust suppression techniques; and restoring exposed soils to their original contour and vegetation.

BMP-14 **Travel and traffic.** Vehicular traffic on site shall be confined to existing or designated travel routes and designated work areas. Access to the construction site and staging areas shall be limited to authorized vehicles and only through the designated roads. The extent of habitat disturbance during construction shall be reduced by keeping vehicles on access roads and minimizing foot and vehicle traffic through undisturbed areas. To the extent practical, travel shall be limited to stabilized roads. Road maintenance activities shall avoid blading existing forbs and grasses in ditches and adjacent to roads. Abandoned roads and roads no longer needed shall be subsoiled to increase infiltration and reduce soil compaction, then recontoured and revegetated.

Construction traffic shall avoid unpaved surfaces to the extent practical (to reduce the risk of compaction) and reduce speed to lessen fugitive dust emissions. On unpaved or unstabilized surfaces within the construction site, speed limits (e.g., 20 mph) shall be posted with visible signs and enforced to minimize airborne fugitive dust. Project vehicle speeds shall be limited in areas occupied by special-status animal species. Traffic shall stop to allow wildlife to cross roads. Shuttle vans or carpooling shall be used where feasible to reduce the amount of traffic on access roads. Workers shall be trained to comply with the speed limit, use good engineering practices, minimize the drop height of materials, and minimize the number and extent of disturbed areas. The Project developer shall enforce these requirements.

BMP-15 **New access roads and parking lots.** New access roads shall be designed and constructed to the appropriate road design standards, such as those described in BLM Manual 9113 or County standards, whichever is applicable. New access roads shall be designed to follow natural land contours in the Project area and avoid existing desert washes. The specifications and codes developed by the U.S. Department of Transportation (DOT) and County of Riverside Transportation Department are also to be taken into account. Primary access roads and parking lots shall be surfaced with aggregate that is hard enough that vehicles cannot crush it and thus cause dust or compacted soil conditions. Paving may also be used on access roads and parking lots. Alternatively, chemical dust suppressants or durable polymeric soil stabilizers would be used on these locations.

BMP-16 **Diesel engines.** All diesel engines used in the facility would be fueled only with ultra-low sulfur diesel with a sulfur content of 15 parts per million (ppm) or less. The Project would require use of construction diesel engines with a rating of 50 horsepower (hp) or higher that meet, at a minimum, the Tier 3 California Emission Standards for Off-Road Compression Ignition Engines, as specified in the California

Code of Regulations, Title 13, Section 2423(b)(1), unless such engines are not available. If a Tier 3 engine is not available for off-road equipment larger than 100 hp, a Tier 2 engine, or an engine equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NO_x) and diesel particulate matter (DPM) to no more than Tier 2 levels, may be used; however document to the County shall be provided discussing attempts to utilize Tier 3 vehicles. Regulatory agencies may determine that use of such devices is not practical when:

- There is no available retrofit control device verified by either the California Air Resources Board (CARB) or the U.S. Environmental Protection Agency (EPA) to control engines in question to Tier 2 equivalent emission levels and the retrofitted or Tier 1 engines use the highest level of available control technology.
- The construction equipment is intended to be on site for five days or less.
- It can be demonstrated there is a good faith effort to comply with the recommendation and that compliance is not practical.

The idling time of diesel equipment would be limited to no more than 10 minutes, unless idling must be maintained for proper operation (e.g., drilling, hoisting, and trenching).

BMP-17 **High wind conditions.** In compliance with MDAQMD Rule 403 criteria, all soil-disturbing activities and travel on unpaved roads must be suspended during periods of high winds. A 25 mph wind speed has been determined on the basis of soil properties identified during site characterization. Monitoring of the wind speed would be required at the site during construction, operation, maintenance, and decommissioning.

3.3.5 CEQA Significance Criteria

The CEQA thresholds of significance for air quality are derived from Appendix G of the CEQA Guidelines and from the Mojave Desert Air Quality Management District (MDAQMD) CEQA Guidelines (MDAQMD 2011). The thresholds from both sources have been combined into a single set of criteria; a project could have a potentially significant impact if it would:

- Conflict with or obstruct implementation of the applicable air quality attainment or maintenance plan (see Impact AIR-1).[1]
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation when added to the local background (see Impact AIR-2). The MDAQMD significance thresholds for criteria pollutants are shown in **Table 3.3-5**.

[1] Pursuant to MDAQMD CEQA Guidelines (page 10), "a project is deemed to not exceed this threshold, and hence not cause a significant impact, if it is consistent with the existing land use plan. Zoning changes, specific plans, general plan amendments and similar land use plan changes which do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle miles traveled are also deemed to not exceed this threshold."

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) (see Impact AIR-3).

TABLE 3.3-5
MDAQMD EMISSIONS THRESHOLDS

Criteria Pollutant	Annual Threshold (tons)	Daily Threshold (pounds)
Carbon Monoxide (CO)	100	548
Oxides of Nitrogen (NO_x)	25	137
Volatile Organic Compounds (VOCs)	25	137
Oxides of Sulfur (SO_x)	25	137
Particulate Matter under 10 Microns (PM_{10})	15	82
Particulate Matter under 2.5 Microns ($PM_{2.5}$)	15	82
Hydrogen Sulfide (H_2S)	10	54
Lead (Pb)	0.6	3

- Expose sensitive receptors to substantial pollutant concentrations including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 1. As defined in the MDAQMD's CEQA Guidelines, sensitive receptors include land uses associated with residences, schools, daycare centers, playgrounds, and medical facilities (see *Impact AIR-4*). The following project types proposed for sites within the specified distance to an existing or planned (zoned) sensitive receptor land use must be evaluated using CEQA Significance Criterion AIR-4:
  - Any industrial project within 1,000 feet;
  - A distribution center (40 or more trucks per day) within 1,000 feet;
  - A major transportation project (50,000 or more vehicles per day) within 1,000 feet;
  - A dry cleaner using perchloroethylene within 500 feet; or
  - A gasoline dispensing facility within 300 feet.
- Create objectionable odors affecting a substantial number of people (see *Impact AIR-5*).

The following additional significance criteria from the County of Riverside CEQA Environmental Assessment Form are used in the analysis. A project could have potentially significant impacts if it would:

- Expose sensitive receptors that are located within one mile of the Project site to substantial point source emissions (see *Impact AIR-6*).

- Involve the construction of a sensitive receptor located within one mile of an existing substantial point source emitter (see *Effects Found Not to Be Significant*).[2]

Table 3.3-5 presents the quantitative thresholds by which a project's emissions are evaluated under MDAQMD significance threshold criterion number 1. The air quality impacts associated with the Project were evaluated for significance based on these significance criteria.

Effects Found Not to Be Significant

It has been determined that the PVMSP would not result in impacts to the following significance criteria.

- Involve the construction of a sensitive receptor located within one mile of an existing substantial point source emitter.

The PVMSP would not establish a use classified as a sensitive receptor; as such, there would be no impact. Therefore, this criterion is not discussed in detail in the EIR.

3.3.6 Impact Analysis

This section describes the impact analysis relating to air quality for the Project. It describes the methods used to determine the impacts of the Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Impact AIR-1: The Project could conflict with or obstruct implementation of the applicable air quality plan. This impact would be *less than significant*.

The emissions from the proposed Project would not conflict with or obstruct implementation of the applicable air quality plan. See the discussion of Impact AIR-2 below for further detail regarding compliance with air quality standards reflected in the MDAQMD air quality plan. The Project would comply with the MDAQMD Rules and Regulations, including those adopted from the SIP and those required under MDAQMD Rule 403 relative to fugitive dust. The MDAQMD's 2004 Ozone Attainment Plan (MDAQMD 2004) has adopted the control measures recommended in the plan in its Rules and Regulations. The MDAQMD has also adopted fugitive dust control requirements in its Rule 403. Most important, MDAQMD's significance thresholds establish the amount of emissions that can occur without affecting the ability of the air basin to comply with its AQMP and bring emissions into compliance with ambient standards.

Pursuant to BMP-3, the applicant will prepare a Fugitive Dust Abatement Plan that would comply with MDAQMD regulations and implement MDAQMD Rule 403 (Fugitive Dust Control Measures) to minimize impacts from dust as result of construction and operation of the Project. Measures would include: apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface; apply chemical stabilizers within five working days of grading completion;

[2] Threshold AIR-7 addresses the impacts of the existing environment on the proposed project. Threshold AIR-7 accordingly does not relate to a subject encompassed by CEQA. The Project's conformance to threshold AIR-7 is addressed in this EIR/EA as a land use planning issue.

during construction, apply water to at least 70 percent of all inactive disturbed areas on a daily basis when there is evidence of wind driven fugitive dust.

The implementation of Rule 403 and measures listed above would limit dust generation and avoid dust generation becoming a visibility issue for pilots and residences in adjacent parcels to the solar facility site and gen-tie line. While Project operations have limited potential for dust generation, dust control will be an operational priority for the Project because dust reduces the efficiency of solar panels.

Proposed Project emissions would not conflict with or obstruct implementation of the applicable air quality plan since the Project would comply with the MDAQMD Rules and Regulations, including those adopted from the State Implementation Plan (SIP) and those required under MDAQMD Rule 403 relative to fugitive dust. Impacts would be less than significant. Decommissioning emissions would be similar to construction emissions.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact AIR-2: The Project could violate any air quality standard or contribute substantially to an existing or projected air quality violation when added to the local background. This impact would be *less than significant.*

The PVMSP would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. As depicted in **Table 3.3-6** below, emissions from construction of Project components would be below the impact significance thresholds for the maximum daily construction for all the criteria pollutants. In addition, the annual emissions would be below the impact thresholds for all the criteria pollutants. Emissions are based on the CalEEMod outputs included in Appendix C.

Construction of the PVMSP would result in emissions of the following criteria air pollutants: ROG, NO_x, CO, PM_{10}, $PM_{2.5}$, and SO_x. Based on the Air Quality and Global Climate Change Report (Appendix C), the criteria pollutants hydrogen sulfide and lead would not be generated during construction, operations, or decommissioning and are not evaluated further.

As shown in Table 3.3-6, emissions from construction of the Project would be below the daily and annual MDAQMD thresholds for all criteria pollutants. Notably, these emission calculations incorporate BMPs described above, including fugitive dust suppression and the use of at least Tier 2 engines in all off-road equipment.[3]

[3] Although not considered mitigation, BMP incorporation and reductions are depicted in the "Mitigated Construction" tables of the CalEEMod output data in Appendix C.

TABLE 3.3-6
ESTIMATED CONSTRUCTION EMISSIONS: SOLAR ARRAYS, O&M BUILDINGS, SUBSTATION, AND TRANSMISSION LINE

Year	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Maximum Daily Construction Emissions, lbs/day						
2016	9.8	74.8	160.7	0.2	18.9	7.2
2017	8.6	64.9	140.6	0.2	15.7	5.9
2018	8.0	64.1	132.7	0.2	16.4	6.1
2019	3.3	32.2	32.6	0.1	3.0	1.7
Significance Thresholds	137	137	548	137	82	82
Above Significance Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*
Annual Construction Emissions, tons/year						
2016	0.3	3.6	5.7	0.0	0.8	0.3
2017	0.9	7.6	15.9	0.0	1.9	0.7
2018	0.7	5.8	11.6	0.0	1.6	0.6
2019	0.1	0.8	0.8	0.0	0.1	0.0
Significance Thresholds	25	25	100	25	15	15
Above Significance Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*

The PVMSP would not result in significant TACs from diesel exhaust or other TACs that may be produced during construction due to the short-term nature of the construction period. Construction activities would result in emissions of diesel particulate matter from heavy construction equipment used on site and truck traffic to and from the site, as well as minor amounts of TAC emissions from motor vehicles (such as benzene, 1,3-butadiene, toluene, and xylenes) (Appendix C, Air Quality and Global Climate Change Report). Health effects attributable to exposure to diesel particulate matter are long-term effects based on chronic (i.e., long-term) exposure to emissions. Health effects are generally evaluated based on a lifetime (70 years) of exposure. Off-road equipment and motor vehicle emissions would not be concentrated in any one area for a long-term duration, but would be dispersed around the large areas of construction and along travel routes, respectively. Based on the short-term duration of construction at the site (up to three years), TAC dispersion, and incorporation of BMP-16 regarding diesel engine standards, the Project would not pose a significant health risk to sensitive receptors as a result of the short-term diesel particulate emissions.

Operations and maintenance include general operational activities in support of the site, as well as periodic washing of the solar panels. After the construction phase, the O&M building would serve the Project's approximately 12 permanent full-time employees. The panels may be cleaned up to two times per year, if necessary to optimize output. O&M vehicles would include trucks (pickup and flatbed), forklifts, and loaders for routine and unscheduled maintenance and water trucks for solar panel washing. Large heavy-haul transport equipment may be brought to the Project area infrequently for equipment repair or replacement. Fugitive dust would be generated from vehicles and equipment on unpaved surfaces.

In addition, as previously described in Chapter 2, soil stabilization and dust suppression methods would be implemented to ensure that dust would not become a nuisance on the proposed sites or at the surrounding sites. Dust would be controlled during operations by the periodic application and maintenance of soil binders to exposed soil surfaces.

Operational emissions would be confined to inspection and maintenance activities, including washing of the solar panels. Emissions estimates associated with operations are summarized in **Table 3.3-7**.

TABLE 3.3-7
ESTIMATED OPERATIONAL EMISSIONS

Emission Source	ROG	NOx	CO	Sox	PM_{10}	$PM_{2.5}$
Total Operational Emissions, lbs/day						
Area	0.1	0.0	0.4	0.0	0.0	0.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0
Mobile	0.1	0.5	1.5	0.0	0.2	0.1
Off-road	1.8	17.3	11.6	0.0	0.9	0.8
TOTAL	**2.0**	**17.8**	**13.5**	**0.0**	**1.1**	**0.9**
Significance Thresholds	137	137	548	137	82	82
Above Significance Thresholds?	*No*	*No*	*NA*	*NA*	*NA*	*NA*
Total Operational Emissions, tons/year						
Area	0.1	0.0	0.0	0.0	0.0	0.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0
Mobile	0.0	0.1	0.3	0.0	0.1	0.0
Off-road	0.0	0.1	0.1	0.0	0.0	0.0
TOTAL	**0.1**	**0.2**	**0.4**	**0.0**	**0.1**	**0.0**
Significance Thresholds	25	25	100	25	15	15
Above Significance Thresholds?	*No*	*No*	*No*	*No*	*No*	*NA*

As shown in **Table 3.3-7**, operational emissions would be below the maximum daily and annual significance thresholds within the MDAQMD. Impacts from operations would therefore be less than significant.

Operational emissions of TACs would be negligible due to the limited activity and relatively infrequent need for heavy maintenance equipment on site. Therefore, the risk from operations at any given receptor area would be below the MDAQMD significance thresholds.

Decommissioning

Decommissioning emissions would be similar to construction emissions. The emissions associated with decommissioning of the solar array would be generated from disassembly and removal of solar panels, foundations, and other structures such as the substations, support buildings, piles, inverters and pads, and perimeter fencing. After removal of all equipment and

buildings, the site would be returned to a condition similar to fallow agriculture. The equipment used for decommissioning would be similar to that used for construction. Land alteration would be minimal and no grading and clearing would be required. Since decommissioning would not involve grading or clearing activities and equipment used in the future is likely to be much more efficient than that currently used, the level of decommissioning emissions would be substantially less than emissions created during construction. Decommissioning activities would be conducted pursuant to adopted MDAQMD emission control measures in effect at the time of the activity.

Similar to criteria pollutant emissions, TAC emissions generated during decommissioning are anticipated to be less than those generated during construction due to advanced equipment engine technology and cleaner fuel.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact AIR-3: The Project could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including release emissions which exceed quantitative thresholds for ozone precursors). This impact would be *less than significant.*

While the region is nonattainment for the CAAQS for O_3 and PM_{10}, not all emissions of these criteria pollutants would constitute a significant impact or cumulatively considerable net increase in emissions. Permitting agencies and lead agencies with jurisdiction over nonattainment areas, such as the USEPA and the MDAQMD, typically establish thresholds below which a project would have neither a direct impact, nor a cumulatively considerable contribution to a significant cumulative impact.

Each air district in a nonattainment area is responsible for developing emissions inventory data as part of the planning process to develop its attainment plan. The emissions budget for the MDAQMD includes emissions associated with construction activity, including construction equipment, fugitive dust, and vehicles that are accommodated in the agency's plans to achieve attainment. The MDAQMD construction emissions budget for off-road construction equipment and vehicles includes 1.63 tons per day of ROG, 4.67 tons per day of NOx and 0.28 tons per day of PM_{10}. The MDAQMD fugitive dust emissions budget attributable to construction activities also includes 8.77 tons per day of PM_{10}. During construction, the Project's emissions of non-attainment pollutants ROG, NOx, and PM_{10} would represent only a very small percentage of the overall emissions budget and would fall below the thresholds MDAQMD has established to ensure its ability to bring the air basin into compliance. For a detailed discussion regarding cumulatively considerable net increases of any criteria pollutant, please refer to the Cumulative Impacts section for air quality at the end of this section.

Less than significant emissions would occur during operations, and the Project would also provide renewable energy, which would reduce emissions associated with power generation

compared to fossil fuel power generation. The PVMSP would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment. Please refer to the detailed discussion in Cumulative Impacts for air quality at the end of this section.

Decommissioning emissions would be less than construction emissions. Please refer to the detailed discussion in Cumulative Impacts for air quality at the end of this section.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact AIR-4: The Project could expose sensitive receptors to substantial pollutant concentrations. This impact would be *less than significant.*

As described above for Impact AIR-2, the PVMSP would not expose sensitive receptors to substantial pollutant concentrations, including TACs. Health effects are generally evaluated based on a lifetime (70 years) of exposure. The proposed Project would not result in significant TACs from diesel exhaust or other TACs that may be produced during construction due to the short-term nature (three years) of the construction period which is only 4.3 percent of the exposure period for which lifetime exposure is calculated. Based on the short-term duration of construction at the site, TAC dispersion as construction activities shift to different areas of the site, and incorporation of BMP-16 regarding diesel engine standards, the Project would not pose a significant health risk to sensitive receptors as a result of the short-term diesel particulate emissions. During operations, the emissions of both criteria and toxic pollutants would be relatively small. The decommissioning of the Project would not expose sensitive receptors to substantial pollutant concentrations given the distance of sensitive receptors from the Project area, the intermittent nature of construction activities, and the implementation of BMP-16 related to diesel engines. Thus, impacts during construction, operation, and maintenance, decommissioning would not expose sensitive receptors to substantial pollutant concentrations, and would therefore be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact AIR-5: The Project would not create objectionable odors affecting a substantial number of people. This impact would be *less than significant.*

The PVMSP would not create objectionable odors affecting a substantial number of people. The exhaust from construction equipment and use of building materials such as asphalt paving, adhesives and binders, and protective coatings may create mild odors in areas on and adjacent to

the Project area (within 1,000 feet). Construction odors would be temporary and not overly offensive. Due to the sparse population adjacent to the site, these mild odors would not affect a substantial number of people. In regard to Project operation, equipment and other Project activities would not include significant odor-producing sources. Few odor sources would be activated during decommissioning. Thus, impacts would not create objectionable odors affecting a substantial number of people during construction, operation, maintenance, and decommissioning, and would therefore be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

Impacts would be less than significant.

Impact AIR-6: The Project could expose sensitive receptors that are located within one mile of the Project site to substantial point source emissions. This impact would be *less than significant*.

See discussion under Impact AIR-4 above. The proposed Project would not expose sensitive receptors that are located within one mile of the Project area to substantial point source emissions. The impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

Impacts would be less than significant.

3.3.7 Cumulative Impacts

The geographic scope for potential cumulative impacts to regional air quality is the Mojave Desert Air Basin (MDAB), within which the Project area is located. The MDAB is considered an unclassified/attainment area for all of the NAAQS. The MDAB is a moderate non-attainment area for the CAAQS for O3 and a non-attainment area for the CAAQS for PM10. The area is considered unclassified/attainment for all CAAQS for the other criteria pollutants. While the region is non-attainment for the CAAQS for O3 and PM10, not all projects would automatically result in a significant contribution to cumulative impacts to air quality.

The geographic scope for potential cumulative impacts on local air quality and sensitive receptors would include the area within approximately one mile of the Project area boundary. The Project would be constructed in a rural area of Riverside County near and partially within the City of Blythe, where the closest sensitive receptor (i.e., a residence) is 230 feet from the Project area boundary. In addition, there are 369 residences within one mile of the Project area boundary. No schools, hospitals, or long-term care facilities are located within one mile of the Project boundary.

The temporal scope of impacts to air quality would be during the development of cumulative projects during the construction phase, because short-term impacts to air quality would occur

during this time period in association with the addition of construction equipment to the landscape. Based on the nature of the Project as a solar energy provider, no long-term impacts to air quality are anticipated in association with the operation of the PVMSP, as the operational impacts would result from limited vehicle trips and infrequent equipment use for operations, maintenance, and inspection and would be substantially less than construction impacts. The very small increases in traffic volumes associated with worker trips and infrequent equipment use at the facilities would not adversely impact air quality during the operational life of the Project.

Cumulative air quality impacts could occur when overlapping construction schedules of multiple projects conflict with an applicable air quality plan, exposes a large number of people to objectionable odors, or if the Project results in a net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

The air basin for the Project area is considered an unclassified/attainment area for all of the NAAQS. The Project area is considered a moderate non-attainment area for the CAAQS for O_3 and a non-attainment area for the CAAQS for PM_{10}. The area is considered unclassified/attainment for all CAAQS for the other criteria pollutants. Because the project is located in a nonattainment area, the combined air quality effects within the geographic scope would be considered cumulatively significant. Each air district in a nonattainment area is responsible for developing a plan for bringing the basin into attainment. It develops emissions inventory data as part of the planning process, and projects that a certain amounts of budgeted emissions will occur throughout plan implementation. The plan then prescribes means of achieving attainment in light of the projected, budgeted emissions. Accordingly, so long as emissions remain with the projected budgets, the emissions will implement rather than thwart the agency's plan to achieve attainment throughout the entire air basin. .

The emissions budget for the MDAQMD includes emissions associated with construction activity, including construction equipment, fugitive dust, and vehicles. The MDAQMD construction emissions budget for off-road construction equipment and vehicles includes 1.63 tons per day of ROG, 4.67 tons per day of NO_x and 0.28 tons per day of PM_{10}. The MDAQMD fugitive dust emissions budget attributable to construction activities also includes 8.77 tons per day of PM_{10}. During construction, the Project's emissions of non-attainment pollutants ROG, NOx, and PM_{10} would represent only a very small percentage of the overall emissions budget, and will not cause emissions to exceed the budgeted amount. Therefore, the Project will not contribute to any exacerbation of non-attainment status and will help implement rather than thwart MDAQMD's plans and programs for the entire basin. The Project's contribution to overall cumulative construction emissions (*Impacts AIR-1, AIR-2, and AIR-3*), including all activities within the MDAB as identified in the emissions budget, is small and not cumulatively considerable.

With regard to impacts of criteria air pollutants on sensitive receptors, the geographic scope considered for potential cumulative impacts on sensitive receptors are projects located within approximately 1,000 feet of a sensitive receptor, such as a residence. Sensitive air quality receptors (e.g., local residences, schools, hospitals, churches, and recreational facilities) are

located within one mile of the PVMSP, including several residences. There are 222 residences within one mile of the Project area, of which seven individual residences are located within 1,000 feet of the site. The closest residence is located approximately 230 feet away. In addition, the project is approximately 0.4 miles (2,200 feet) from the Mesa Verde Park and approximately 0.8 miles (4,400 feet) from the Roy Wilson Community and Child Center. No schools, hospitals, or convalescent homes are located within one mile of the proposed project. The 24-hr PM10 concentration of 10 micrograms per cubic meter added to background levels of the past few years would not be enough to exceed the federal PM_{10} standard, but would exceed the State 24-hour standard. While the PVMSP analysis is very conservative and may overestimate the concentrations, the emissions from cumulative projects (solar and others), combined with natural sources such as dust storms, would temporarily degrade particulate air quality in the SEZ. However, it was assumed that watering two times daily would control emissions of PM_{10} and $PM_{2.5}$ by 55 percent (based on the CalEEMod defaults). In addition, through the implementation of Rule 403, fugitive dust control measures must be utilized to reduce emissions of particulate matter during construction, and emissions from construction would therefore not conflict with or obstruct implementation of the applicable air quality management plan, and will be mitigated to below a level of significance. PVMSP would implement BMPs to reduce emission from construction; however, impact analysis for PVMSP already shows that emissions are less than significant and would not be capable of contributing in a cumulatively considerable manner.

For PVMSP the screening analysis (Appendix C, Air Quality and Global Climate Change Report) showed that exposure to diesel exhaust emissions during construction would be below threshold levels for the closest residential uses adjacent to the Project area (based on SCREEN3 model outputs). Other cumulative projects that could be constructed within one mile of some of these receptors within the same timeframe as the proposed Project include the Blythe Airport Solar 1 Project and the Blythe Energy II Project. Neither project provided a construction diesel particulate screening analysis; however, both are relatively small in development area compared to the proposed Project. The proposed Project results in a health risk of 0.55 per million and a non-cancer risk of 0.008. Risk from the proposed Project is based on the construction PM emissions generated by the grading and development of a 3,400-acre site over a 3 year period. The Blythe Airport Solar I Project would generate PM emissions from the grading and development of a 640-acer site and the Blythe Energy Project II would result in emissions from the grading and development of a 76-acre site. Because these two projects are significantly smaller than the proposed Project, the intensity and extent of construction activity would be anticipated to be less than the proposed Project, and therefore the risk related to these projects would also be anticipated to less. Even if the development of these two projects resulted in identical levels of risk as the proposed Project, the combined cancer risk would be 1.65 per million and the combined non-cancer risk would be 0.024. The combined risk would be less than the 10 in a million cancer risk and 1 non-cancer risk used to evaluate the project level impacts. Therefore, it is likely that these projects cumulatively would not expose any sensitive receptors to substantial TAC concentrations (Impacts AIR-4, AIR-6, and AIR-7). Therefore, the incremental contribution of the Project to cumulative effects is not cumulatively considerable.

Construction of the Project would not cause a substantial impact related to the generation of odors from diesel equipment emissions because construction activities would be intermittent and

spatially dispersed, and associated odors would dissipate quickly from the source. Projects in the cumulative scenario are not expected to cause diesel-related odors (Impact AIR-5) that would intermingle with those of the Project, because odors would not travel far enough to combine with any mild odors from the Project.

Project-related operational emissions for the proposed Project are associated with minor employment and maintenance activities. These emissions would be at levels too low to make a substantial difference in cumulative emissions. Though emissions of ozone precursors and PM_{10} would occur during operations, the levels would be well below impact thresholds and would be a very small percentage of the overall emissions budget for the air basin (Impacts AIR-1 and AIR 2). The PVMSP's contributions to emissions during operations would therefore not be cumulatively considerable (Impact AIR-3). Because the Project would also provide renewable energy, the Project would reduce emissions of both criteria pollutants and greenhouse gases compared to traditional power generation facilities, thus lessening the amount of pollution emitted overall compared to business as usual in future years. (Impacts AIR-4, AIR-5, and AIR-6).

It is anticipated that potential impacts from decommissioning activities would generally be similar to the types of impacts created from construction of the PVMSP, such as fugitive dust from earthmoving activities and vehicle travel on dirt roads, and criteria air pollutant emissions from construction equipment and vehicle engine exhaust. As these activities would be subject to the same air quality regulatory requirements as the construction activities, these impacts would be at most equal to, and most likely significantly less than, the impacts from construction of the PVMSP (as discussed in Impact AIR-1), because the intensity of the decommissioning activities and the pieces of equipment used during the decommissioning process are anticipated to be less than the intensity of activities and quantity of equipment necessary to construct the proposed Project. Also, it is very unlikely that all the projects listed in the Cumulative Projects list would be decommissioned at the same time. Therefore, it is anticipated that the Project's contribution to cumulative total emissions from decommissioning would not be cumulatively considerable.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

Cumulative impacts would be less than significant.

3.3.8 Mitigation Measures

The proposed Project would implement applicable rules and regulations of the MDAQMD, including the fugitive dust control measures as required under MDAQMD Rule 403. The Project would also implement the BMPs discussed above. No mitigation measures are required.

3.4 Biological Resources

This section describes the environmental setting and regulatory framework for biological resources. It also identifies and evaluates the existing biological conditions on and in the vicinity of the Project site. It includes the physical and regulatory setting for the Project and proposed alternatives, the criteria used to evaluate the significance of potential impacts on biological resources, the methods used in evaluating these potential impacts, and an analysis of potential impacts. The analysis presented in this section is based on a review of relevant literature, field reconnaissance surveys, and focused biological surveys, including the reports included in Appendix D to this EIR.

3.4.1 Environmental Setting

Regional Setting

The Project site is located on the Palo Verde Mesa in eastern Riverside County, approximately five miles west of the City of Blythe and approximately seven miles from the Colorado River. The Palo Verde Mesa is an alluvial-filled basin bound by the McCoy Mountains to the west, the Little Maria Mountains to the northwest, and the Big Maria Mountains to the northeast. The Mule Mountains lie to the southwest of the Project site, and together these mountain ranges create a natural barrier between the Colorado River and the greater Colorado Desert, which is a sub-section of the Sonoran Desert. On-site topography is relatively flat and slopes toward the southeast; elevation ranges from 260 to 400 feet above mean sea level (AMSL).

The subtropical climate of the Colorado Desert is characterized by dry, mild winters averaging 55°F and dry, hot summers that average 88°F. Summer highs are known to reach 122°F. Yearly average precipitation is 3.81 inches (WRCC, 2015). Although rainfall is primarily in the winter months, the region is influenced by summer monsoons from July through September.

Inventory Methodology

This section presents the methods used to inventory biological resources in the Project area as a baseline for the impact analysis. The “study area” where biological resources were inventoried includes the solar facility site, a 2-mile buffer around the site, and a 500-foot wide corridor centered on the gen-tie line (250 feet on either side of the gen-tie centerline). This study area accounts for the home ranges of most species that could occur on the Project site, or could potentially be affected by the Project. Certain species have larger home ranges, such as the golden eagle (*Aquila chrysaetos*). While the home ranges of these wide-ranging species may occur primarily outside of this buffer, these species may migrate into and out of the study area based on their habitat needs. For example, golden eagle nesting habitat is not present within the Project area and no nests are known to be present within 10 miles; however, potential foraging habitat is present in the Project area, particularly south of I-10, and golden eagles may enter into the Project area while foraging away from its nesting sites. The biological resources inventory accounted for all species that are known to occur near the Project area and that may migrate through or forage within the Project area. Species that may have more restrictive habitat requirements or home

ranges and would be unlikely to be present near the Project area or within the two-mile buffer based on vegetation, disturbance, soil substrates, or other factors were excluded.

Reconnaissance-level biological surveys were conducted to assess the potential for the site to support special-status species based on available habitat and species distribution in the region. Biologists assessed the dominant vegetation types, plant community sizes, habitat types, and species present within each community. In addition to reconnaissance-level surveys, western burrowing owl (BUOW) protocol-level surveys were performed in 2011 and 2013. Detailed discussions of field survey methods are provided in the *Palo Verde Mesa Solar Project Biological Survey Report* (POWER, 2012) and *Western Burrowing Owl Monitoring and Mitigation Plan* (POWER, 2013a) (see Appendix D of this EIR).

Databases that were reviewed in support of this analysis include the California Natural Diversity Database (CNDDB) (CDFW, 2016a), California Native Plant Society (CNPS) Electronic Inventory (CNPS, 2015), U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal (USFWS, 2015a), National Gap Analysis Program (USGS, 2015), and the National Wetland Inventory (USFWS, 2015b). Other data sources include aerial photographs, topographic maps, soil survey maps, geologic maps, climatic data, Project plans, and previous biological studies on the Project site and in the vicinity, including studies performed in support of the Blythe Mesa Solar Project (BMSP) (POWER, 2012b). The assessment also included review of the following site-specific biological reports: *Palo Verde Mesa Solar Project Biological Survey Report* (POWER, 2012), *Bird and Bat Conservation Strategy* (POWER, 2013b), and *Western Burrowing Owl Monitoring and Mitigation Plan* (POWER, 2013a) (see Appendix D of this EIR).

Regional resource planning documents prepared by federal, State, and local agencies were also reviewed, including the California Desert Conservation Area Plan (BLM, 2005), the Northern and Eastern Colorado Desert Coordinated Management Plan (NECO) (BLM and CDFW, 2002), the Riverside County General Plan (Riverside County, 2015), and the USFWS *Recovery Plan for the Desert Tortoise* (*Gopherus agassizii*) (USFWS, 2011).

Special-status species are defined as species that meet one or more of the following criteria:

- Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (FESA) (50 Code of Federal Regulations (CFR) §17.12 [listed plants], 50 CFR §17.11 [listed animals], and various notices in the Federal Register [FR] [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under ESA (77 FR 69994, November 21, 2012).
- Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 California Code of Regulations [CCR] §670.5);
- Identified as a fully protected species by the California Department of Fish and Wildlife (CDFW);

- California Species of Special Concern (CSC), vertebrate species that have been designated as "Species of Special Concern" by the CDFW because declining population levels, limited range, and/or continuing threats have made them vulnerable to extinction;
- On BLM land, species that are identified by the BLM in the Northern and Eastern Colorado Desert Coordinated Management (NECO) Plan as sensitive (BLM 2010);
- Species that are identified by the California Rare Plant Ranking System (CRPR) as List 1A (presumed extirpated in California), 1B (rare, threatened, and endangered in California and elsewhere), or 2A (presumed extirpated in California, but more common elsewhere). CRPR List 1A, 1B, 2A and 2B species are considered special-status plant species if they fall within any of these categories as defined in the Native Plant Protection Act (NPPA), California Fish and Game Code (CFGC) Section 1901, or the CESA, CFGC Sections 2050 through 2098 (CNPS 2001, 2015); or
- Covered as a State-protected furbearing mammal (PFM).

The term "special-status species" excludes those avian species solely identified under Section 10 of the Migratory Bird Treaty Act (MBTA) for federal protection. Nonetheless, protected species under MBTA (50 CFR §10.13) are afforded avoidance and minimization measures per federal and State requirements.

Under the CEQA review process, only CRPR List 1 and 2 species are considered since these are the only CRPR species that meet CEQA's definition of "rare" or "endangered" (14 CCR §15380). Impacts to the species listed under the old ranking of CNPS List 3 and 4 are not regarded as significant pursuant to CEQA. Surveys and database and literature searches were also conducted to determine presence or absence of resources protected by the NECO plan, and burros that are protected under the Wild Free-Roaming Horse and Burro Act (Public Law 92-195).

Results

The following sections describe the results of the biological inventory. The results show both the data collected from the database review and surveys conducted in the study area.

Vegetation Communities

Vegetation in the study area and the region is influenced by climate, topography, and soils, as well as past land uses. Anthropogenic disturbances and development activities in the region have altered much of the native vegetation by converting it to agricultural production, residential and commercial developments, associated infrastructure (e.g., roads and energy distribution), and livestock grazing (e.g., sheep and horses). Though these converted areas have been disturbed and support several ruderal and invasive plant species such as salt cedar (*Tamarix* spp.) and brome grasses (*Bromus* spp.), they often still provide marginal quality habitat for wildlife and plants in the region.

Plant communities in the study area are described according to Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland, 1986) and further classified using A

Manual of California Vegetation (Sawyer et al., 2009). Twelve vegetation communities and other cover types were identified within the study area during the field surveys, including upland, riparian, and other cover types (**Table 3.4-1**, **Table 3.4-2**; **Figure 3.4-1**).

TABLE 3.4-1
VEGETATION COMMUNITIES AND COVER TYPES WITHIN THE SOLAR FACILITY SITE

Vegetation Communities and Land Cover Types	Total Acreage[1]	Percentage of Total Acreage
Citrus Orchard	313.9	9.5%
Creosote Bush-Big Galleta Scrub	2.1	0.1%
Creosote Bush Scrub	86.5	2.6%
Creosote Bush Scrub-Desert Pavement	23.1	0.7%
Desert Dry Wash Woodland	130.6	4.0%
Disturbed[2]	18.4	0.6%
Disturbed Creosote Bush Scrub	31.5	1.0%
Disturbed Desert Dry Wash Woodland	29.1	0.9%
Irrigation Basin	8.0	0.2%
Tamarisk Wind-Row	2.2	0.1%
Non-irrigated Wheat	2,640.8	79.9%
Fallow Agriculture Land	19.3	0.6%
TOTAL	**3,305.5**	**100.0%**

1 The solar facility acreage is based on GIS acreage data; the County of Riverside's parcel size acreage for the same area is 3,250 acres.
2 Areas within the Project area mapped as disturbed included graded, undeveloped or unvegetated areas outside of the current agricultural footprint. There is no associated Holland or Sawyer, Keeler-Wolf, and Evans classification for this land cover type.

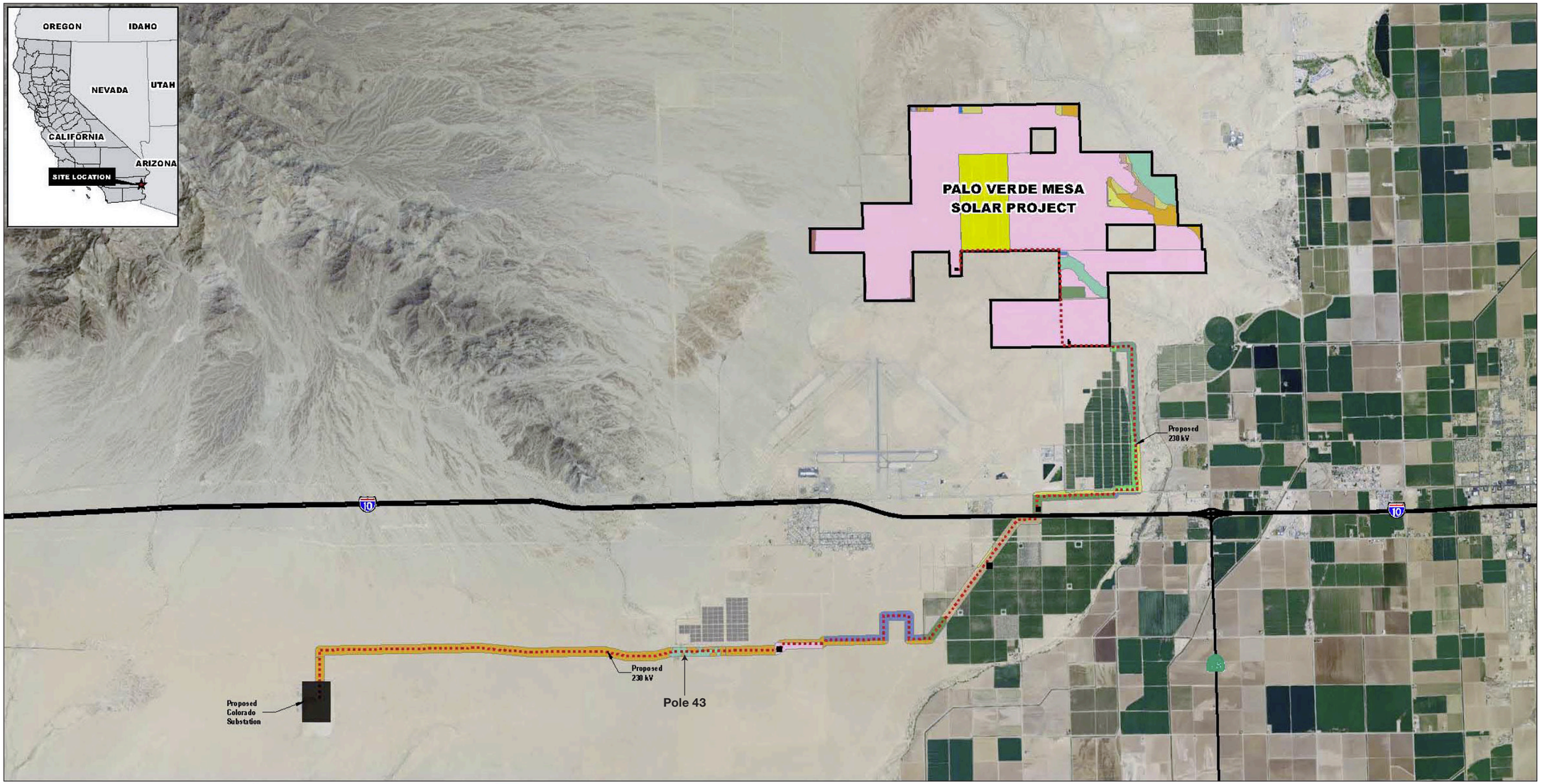
SOURCE: POWER, 2012

TABLE 3.4-2
VEGETATION COMMUNITIES AND COVER TYPES WITHIN THE 500-FOOT GEN-TIE LINE CORRIDOR

Vegetation Communities and Land Cover Types	Total Acreage	Percentage of Total Acreage
Bajada	65.7	9.2%
Desert Dry Wash Woodland	22.9	3.2%
Developed/Disturbed	41.2	5.8%
Disturbed Creosote Scrub and Fallow Agriculture	73.9	10.4%
Fallow	57.7	8.1%
Irrigated Cropland	35.8	5.0%
Non-Irrigated Cropland	23.3	3.3%
Orchard	82.0	11.5%
Sonoran Creosote Bush Scrub	310.9	43.6%
TOTAL	**713.4**	**100.0%**

* A 500-foot corridor (250 feet on either side of the centerline) was utilized to account for potential indirect and direct impacts to biological resources.

SOURCE: POWER, 2012



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.4-1

Vegetation Communities Within the Study Area

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The solar facility site primarily consists of agricultural fields, approximately 90 percent of which are currently active (**Table 3.4-1**). The agricultural land use within the solar facility site includes drip-irrigated citrus orchards, non-irrigated wheat, and fallow agricultural fields, which utilize Colorado River water for irrigation. The other 10 percent of the site consists of creosote bush scrub, desert dry wash woodland, disturbed land, tamarisk wind-row, and irrigation basin. The gen-tie line corridor consists mainly of disturbed Sonoran creosote bush scrub (Table 3.4-2).

Creosote Bush Scrub

Within the study area, this community is characterized by sandy soils on a broad, gentle southeast-trending slope. Dominant plants within the study area for this community include creosote bush and burro bush. This is the most common plant community within the study area and the surrounding area to the north and east, dominating alluvial soil deposits. This plant community intergrades into the desert dry wash woodland. Sonoran creosote bush scrub is designated by Holland as Code 33100 and Sawyer and Keeler-Wolf as the Ocotillo Series.

Approximately 397.37 acres of creosote bush scrub and an additional 105.4 acres of disturbed creosote bush scrub, for a total of 502.77 acres, occur within the study area. The majority of this community (384.8 acres) is within the 500-foot gen-tie line corridor. Creosote bush scrub is present along narrow margins near the property line boundaries within the solar facility site (117.9 acres) and on undeveloped slopes within the vicinity of the Project area. Blocks of disturbed creosote bush scrub also occur within the study area and are mapped as Disturbed Creosote Bush Scrub. Past disturbances in these areas consist of military training and agricultural use.

Common wildlife species commonly associated within coyote bush scrub and other natural communities in the Project area include black-tailed jackrabbit (*Lepus californicus*), coyote (*Canis latrans*, tracks only), horned lark (*Eremophila alpestris*), turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), and common side-blotched lizard (*Uta stansburiana*).

Creosote Bush Scrub-Desert Pavement

Desert pavement is a naturally formed desert surface covered with closely packed, interlocking angular or rounded rock fragments of pebble and cobble size. Desert pavements are found on alluvial fans and piedmonts below mountains in the Mojave and Sonoran Deserts. Stones over fine sediments form a weak pavement, which decomposes and weathers more quickly, or if derived from volcanic or limestone sources, may be densely packed, inter-locking, and resistant. Wind-blown silts and sands collect in between and below the gravel pavement. Varnish usually colors the rock surfaces exposed to air a darker color. Varnish is the result of surface evaporation of various salts on the rock, building up a crust. Many desert pavements are extremely old, taking thousands of years to develop. There can be three feet of deep sand under the rocky cap that takes millennia to build up.

Approximately 23.06 acres (less than one percent of the study area) of desert pavement are present within the solar facility site. Narrow margins of Desert pavement remain along the western boundary of the study area.

Creosote bush and big galleta (*Pleuraphis rigida*) were the dominant species in this heavily vegetated, closed-canopy habitat type that occurred within sandy swales between desert

pavement. Associated species included salt grass (*Distichlis spicata*), rush milkweed (*Asclepias subulata*), and burro brush.

Several small areas totaling approximately 2.1 acres of creosote bush-big galleta scrub occurred in the northwest corner of the solar facility site. This vegetation community accounts for less than one percent of the total study area.

Desert Dry Wash Woodland

This extremely xeromorphic deciduous woodland community occurs in arroyo margins and seasonal watercourses and is made up of three primary components: wash-dependent vegetation, vegetated ephemeral dry wash, and islands of Sonoran creosote bush scrub (i.e., riparian interfluves). Soils are intermittently flooded, and saturated. Dominant plants of this community within the study area included palo verde, desert ironwood, sweet bush (*Bebbia juncea*), and Mormon tea (*Ephedra* sp.). Cat-claw acacia (*Acacia greggii*), honey mesquite (*Prosopis glandulosa*), and rush milkweed (*Asclepias subulata*) were infrequent associates. Creosote bush and burro brush were scattered along the banks of the wash and intermittently throughout the canopy. The herbaceous layer was dominated by *Cryptantha* spp. Desert dry wash woodland described by Holland (1986; Code 62200) is equivalent to CDFW desert riparian woodland wash and Sawyer, Keeler-Wolf and Evens (2009) blue palo verde-ironwood-smoke tree series.

Approximately 153.48 acres of desert dry wash woodland and an additional 29.11 acres of disturbed desert dry wash woodland occur, for total of 182.59 acres in the study area. Desert Dry Wash Woodland occurs throughout McCoy wash and within smaller washes in the study area. Cultivated fields in this area were abandoned and woodland shrub species re-colonized the area followed by disking of the soil. Soils in this area are currently disked around and in between existing shrubs. However, of the 182.59 acres, only 22.86 acres would be impacted by the proposed gen-tie line. The solar arrays, substations, and operation and maintenance buildings would avoid this area.

Disturbed

Areas within the study area mapped as disturbed included graded, undeveloped, or unvegetated areas outside of the current agricultural footprint. There are no associated Holland or Sawyer, Keeler-Wolf, and Evens classifications for this land cover type.

Disturbed areas totaled approximately 59.64 acres of the overall study area.

Non-Irrigated Wheat, Fallow, Irrigation Pond, and Orchard

These community types fall into the broader category of agriculture. The majority of agricultural land within the proposed solar facility site contains non-irrigated winter wheat. Several blocks within the Project were mapped as fallow fields. In the soils within fallow agriculture areas, native vegetation is growing back; Russian thistle, Saharan mustard, and other exotic plants were observed interspersed with the native vegetation and are indicative of past agricultural disturbance. Non-irrigated wheat is the most common cover type and encompasses approximately 2,664 acres of the study area, which is a little over 80 percent of the total study area. Irrigation ponds totaled eight acres, orchards 395.8 acres, irrigated cropland 35.81 acres, and fallow fields 77.06 acres. There are no associated Holland or Sawyer, Keeler-Wolf, and Evens classifications for this land cover type.

Tamarisk Wind-Row

Single rows of tamarisk (*Tamarix ramosissima*) occurred along roadsides lining the non-irrigated wheat. Tamarisk supplants native plants and reduces water for wildlife. Active programs to remove tamarisk are ongoing in the state (Sawyer et al.2009). Approximately 2.24 acres of tamarisk were mapped within the study area.

Designated Sensitive Areas

The study area does not pass through any designated Critical Habitat, special management areas, wilderness study areas, or areas of critical environmental concern. A portion of the gen-tie line corridor would cross an ephemeral stream, which is under the jurisdiction of the United States Army Corps of Engineers (USACE) as non-wetland waters of the U.S. and the CDFW and the Regional Water Quality Control Board (RWQCB) as waters of the state. The Project is just east of the McCoy Mountains Bighorn Sheep Deme and the gen-tie line runs along the northern edge of the Chocolate-Mule Mountains Herd Area/Herd Management Area for wild burros. Such management areas occur to the north, west, and south of the Project site; however, the Project area does not fall within any of them.

Special-Status Plants

As identified in the literature review and database search, a total of 19 special-status plant species are known to occur in the vicinity of the study area (**Table 3.4-3**). Of these, nine special-status species are present or have potential to occur in the study area based on its current habitat conditions. Species accounts are provided in the *Palo Verde Mesa Solar Project Biological Survey Report* (POWER, 2012) (see Appendix D of this EIR).

Federal-listed Plant Species

No federal-listed plant species were detected within the study area during surveys conducted in October, 2011. Coachella Valley milkvetch (*Astragalus lentiginosus* var. *coachellae*) has the potential to occur within the study area based on species distribution and the availability of suitable habitat (CDFW, 2016). This species has not been documented in the study area.

State-listed Plant Species

Based on regional databases, no State-listed plant species were determined to have potential to occur within the study area. Based on site-specific habitat evaluations conducted by Project biologists and a literature review, including a CNDDB record search and a compiled list, it was determined that no State-listed plant species have been recorded near the study area or have potential to occur in the study area. No State-listed plant species were detected within the study area during surveys conducted in October, 2011.

Other Special-status Plant Species

Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*) (CRPR List 2 species [rare]), Bitter rubberweed (*Hymenoxys odorata*) (CRPR List 2), and Dwarf germander (*Teucrium cubense* ssp. *depressum*) (CRPR List 2) are known to occur within the study area (CDFW 2016; CalFlora 2015). There are numerous records of these species in the vicinity and several within and just outside the survey area. In addition, several other special-status plants have the potential to occur based on the suitability of the on-site habitat as summarized in **Table 3.4-3**.

TABLE 3.4-3
SPECIAL-STATUS PLANT SPECIES RELEVANT TO THE PROPOSED PROJECT POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name Scientific Name	Sensitivity Status[1]	General Habitat Description (CNPS 2007)	Plant Habit, Flowering Period	Discussion	Potential for Occurrence[2]
Angel trumpets (*Acleisanthes longiflora*)	CRPR: Rank 2.3 NECO Plan	Dry places, generally on carbonate or limestone derived soils in mountainous areas 30 to 8,000 feet	Prostrate to ascending perennial stems less than three feet. Flowers produced during May.	The closest record of this species is in the Big Maria Mountains, greater than 10 miles from the Project site (CDFW, 2015).	Low
Coachella Valley milk-vetch (*Astragalus lentiginosus* var*. coachellae*)	FESA: Endangered CRPR: Rank 1B.2 BLM: Sensitive	Sonoran Desert, in sandy areas growing at elevations of 0 to 1,150 feet.	Annual or perennial herb that flowers February to May	Habitat for this species occurs within the sandy washes. Most populations are restricted to the Coachella Valley, approximately 50 miles west of the Blythe airport.	Low
Harwood's milk-vetch (*Astragalus insularis* var*. harwoodii*)	CRPR: Rank 2.2 NECO Plan	Sonoran Desert, sandy to gravely areas 0 to 1,000 feet.	Annual that blooms January – May	Two populations numbering fewer than 36 plants are known on the Project site; species is prolific from the local vicinity, especially to the west and south (CFDW, 2015)	Present
Pink fairyduster (*Calliandra eriophylla*)	CRPR: Rank 2.3 NECO Plan	Sonoran Desert, sandy washes, slopes and mesas typically between 390 and 5,000 feet.	Shrubs less than one foot in height; blooms March to April	Suitable habitat present within Desert Dry Wash Woodland; the nearest extant record is more than 10 miles from the Project site. (CFDW, 2015).	Low
Crucifixion thorn (*Castela emoryi*)	CRPR: Rank 2.3 NECO Plan	Desert areas on dry, gravelly washes, slopes, plains ±2,150 feet.	Shrub less than 10 feet in height; blooms April to May	No suitable habitat present. Project site elevation is approximately 260-400 feet.	Absent
Abram's spurge (*Chamaesyce platysperma*)	CRPR: Rank 2.2	Sandy flats in creosote bush scrub habitat from approximately 600 to 2,700 feet.	Blooms September through November.	37 records totaling over 2,000 individuals within a 10 mile radius (CDFW, 2015). Suitable habitat occurs within creosote bush scrub throughout the study area.	High
Flat-seeded spurge (*Chamaesyce platysperma*)	CRPR: Rank 1B.2	Sonoran Desert in dunes and desert scrubs with sandy soils below 330 feet.	Blooms February to September, typically in May	Suitable sandy soils and Sonoran Desert scrub exist within creosote bush scrub throughout the site.	Moderate
Las Animas colubrina (*Colubrina californica*)	CRPR: Rank 2.3 NECO Plan	Sonoran creosote bush scrub less than 3,500 feet.	Plants are generally less than three feet; blooms April to June	According to CEC 2009 data, specimens were observed in flower during April; an early blooming period for this species. Similar habitat is expected to occur in the study area.	High

TABLE 3.4-3
SPECIAL-STATUS PLANT SPECIES RELEVANT TO THE PROPOSED PROJECT POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name Scientific Name	Sensitivity Status[1]	General Habitat Description (CNPS 2007)	Plant Habit, Flowering Period	Discussion	Potential for Occurrence[2]
Glandular ditaxis (*Ditaxis claryana*)	CRPR Rank 2.2 NECO Plan	Sonoran Desert at elevations less than 1,525 feet; sandy soils in creosote bush scrub.	Annual or perennial herb that blooms from December to May.	Sandy soils and suitable creosote bush scrub habitat at low elevations are present. Site elevation is approximately 260-400 feet.	Low
Harwood's woollystar (*Eriastrum harwoodii*)	CRPR Rank 1B.2	Desert dunes and Sonoran Desert scrub on sandy soils from 410 to 3,000 feet.	Annual herb that blooms from March to June.	Many documented populations just south of the study area. Occurrences were documented in the transmission line area surveyed for the BMSP (located approximately 3 miles south of the Project site).	High
Bitter rubberweed (*Hymenoxys odorata*)	CRPR Rank 2	Chaparral, coastal scrub, Mojavean Desert scrub, and meadows and seeps, often in alkali soils, and riparian scrub with mesic soils. Most often found on sandy sites from 145 to 490 feet.	Annual herb that blooms from February to November (CNPS 2011); February to May (Hickman 1993).	Habitat for this species is limited to desert dry wash woodland located in isolated pockets throughout the study area and within McCoy Wash. Known population within McCoy Wash within the Project boundary (CDFW 2015).	Present
California satintail (*Imperata brevifolia*)	CRPR Rank 2.1	San Bernardino Mountains, Mojave Desert, in cultivation. Found up to 1,700 feet	Perennial grass found near wet springs, meadows, streamsides and flood plains. Flowering September to May.	The habitat for this species (wet springs, meadows, stream sides and flood plains) does not occur within the study area.	Absent
Lobed ground-cherry (*Physalis lobata*)	CRPR Rank 2.3	Mojavean Desert scrub on decomposed granitic soils, and on playas. From 1,640 to 2,625 feet.	Perennial herb that blooms from September to January.	Site elevation is approximately 260-400 feet. Suitable habitat is not present based on elevation criteria.	Absent
Orocopia sage (*Salvia greatae*)	CRPR Rank 1B.3 NECO Plan	Southeast Sonoran Desert (Orocopia, Chocolate Mtns.) on alluvial slopes between -130 and 2,707 feet.	Evergreen shrubs less than three feet in height with white blooms from March to April.	Nearest known occurrence near Desert Center; 35 miles west of the study area.	Low
Desert spikemoss (*Selaginella eremophila*)	CRPR Rank 2.2	Eastern Peninsular Ranges to the Sonoran Desert at elevations less than 3,000 feet. Shaded sites among rocks, in crevices and gravelly soils.	Rhizomatous mat-forming non-flowering herb.	The habitat for this species (shaded gravel soil in crevices and rocks) does not occur in the study area.	Absent

TABLE 3.4-3
SPECIAL-STATUS PLANT SPECIES RELEVANT TO THE PROPOSED PROJECT POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name Scientific Name	Sensitivity Status[1]	General Habitat Description (CNPS 2007)	Plant Habit, Flowering Period	Discussion	Potential for Occurrence[2]
Coves' cassia (*Senna covesii*)	CRPR Rank 2.2 NECO Plan	Dry, sandy desert washes, slopes of the Sonoran Desert between 1,600 and 2,000 feet.	Small perennial herb up to two feet tall blooming in April.	This species occurs in desert washes and slopes. Occurs in the Chuckwalla mountains. Site elevation is approximately 260-400 feet. Habitat is not present based on elevation criteria.	Absent
Dwarf germander (*Teucrium cubense* ssp. *depressum*)	CRPR Rank 2.2	Sandy soils, washes and fields in the Sonoran Desert below 1,200 feet.	Annual plants up to six inches tall; blooms March to May.	A historic (1949) population was documented near, but outside, of the study area to the east (CDFW 2015); not identified in the study area.	Moderate[3]
Jackass clover (*Wislizenia refracta* ssp. *refracta*)	CRPR Rank 2.2 NECO Plan	Sandy washes, roadsides, alkaline flats in the Mojave Desert, and northern Sonoran Desert between 1,600 and 2,000 feet	Annual; flowers between April and November.	Site elevation is approximately 260-400 feet. Habitat is not present based on elevation criteria.	Absent
Orcutt's woody aster (*Xylorhiza orcuttii*)	CRPR Rank 1B.2 BLM Sensitive	Arid canyons between 60 and 1,000 feet.	Shrubs less than five feet in height; blooms March to April.	According to California Energy Commission data, one plant recorded north of the San Diego / Imperial County border in Indio (Riverside County).	Low

TABLE 3.4-3
SPECIAL-STATUS PLANT SPECIES RELEVANT TO THE PROPOSED PROJECT POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name Scientific Name	Sensitivity Status[1]	General Habitat Description (CNPS 2007)	Plant Habit, Flowering Period	Discussion	Potential for Occurrence[2]

1. Sensitivity Status Key

   ESA: Federal Endangered Species Act

   CRPR California Rare Plant Rank:
   - 1A: Plants presumed extirpated in California and either rare or extinct elsewhere.
   - 1B: Considered rare, threatened, or endangered in California and elsewhere.
   - 2A: Plants presumed extirpated in California, but more common elsewhere
   - 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

   Threat Ranks/ Decimal notations: A CNPS extension added to the CRPR:
   - Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
   - Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)
   - Not very threatened in California (<20 percent of occurrences threatened / low degree and immediacy of threat or no current threats known)

   Only CRPR 1 and 2 are included in the rare plant table for Palo Verde Mesa Solar Project:
   - BLM Sensitive Plants: plant species found on public lands administered by the Bureau of Land Management whose survival is of concern due to limited distribution, low number of individuals and/or populations, and potential threats to habitat.
   - NECO Plan: Northern and Eastern Colorado Desert Coordinated Management Plan special-status species

2. Species Potential for Occurrence:
   - Absent: Species and species habitat is not present within the study area
   - Low Potential–low potential to occur because suitable habitat is of marginal quality
   - Moderate Potential–has moderate potential to occur because suitable habitat was expected to be present but the species was not found during focused plant surveys
   - Habitat Present–has high potential to occur because suitable habitat was expected to be present, and species is known to occur within the vicinity but was not found during focused plant surveys
   - Present–detected during surveys or recorded in previous surveys

3. Note that this conclusion differs from the "species present" conclusion stated in the *Palo Verde Mesa Solar Project Biological Survey Report* (POWER, 2012), included in Appendix D. The CNDDB reported the unknown 1949 location as a 10-mile radius area centered on the City of Blythe (CDFW, 2015). The partial overlap of this area with the Project site does not confirm presence on-site. In response, a "moderate" potential for occurrence is considered appropriate.

SOURCE: POWER, 2012; CDFW, 2016

Wildlife

Special-Status Wildlife Species

Twenty-six special-status wildlife species are known to occur in or pass through the vicinity of the study area (**Figure 3.4-2** and **Figure 3.4-3**). Of these, 22 species are believed to occur or have the potential to occur within the study area based on its current conditions (**Table 3.4-4**). Species accounts are provided in the *Palo Verde Mesa Solar Project Biological Survey Report* (POWER, 2012) (see Appendix D of this EIR).

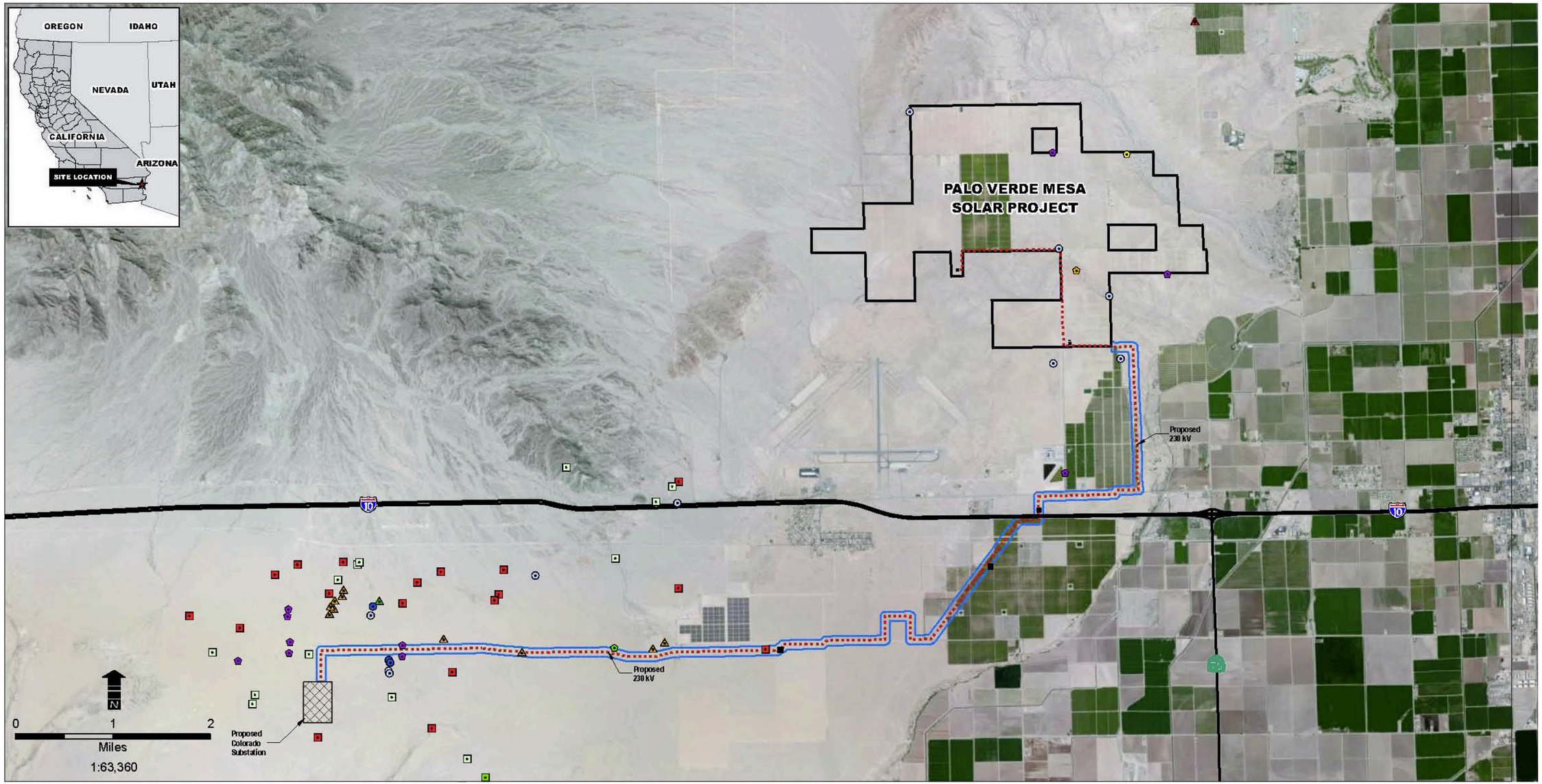
Federal Listed Wildlife Species

No federal listed wildlife species or their sign were detected during field surveys (POWER, 2012). However, there is potential for the federally threatened desert tortoise (*Gopherus agassizii*) to occur within the study area. A detailed discussion of desert tortoise is provided in the *Palo Verde Mesa Solar Project Biological Survey Report* (POWER, 2012) (see Appendix D of this EIR).

The potential for desert tortoise to occupy the solar facility is considered low. The majority of the solar facility site (i.e., about 90 percent) is characterized as agricultural land (i.e., non-irrigated wheat and citrus orchard), which does not present suitable habitat for this species. Suitable habitat for the species within the solar facility is primarily located within the various washes that traverse the solar facility site. Protocol-level desert tortoise surveys have not been performed on the solar facility site to verify presence/absence. However, no individuals or sign were detected within the solar facility site during reconnaissance-level surveys and BUOW protocol-level surveys in 2011 and 2013.

The proposed Project would utilize the same transmission line corridor as the BMSP. As reported for the BMSP, there is moderate potential for desert tortoise to occur within the transmission line corridor (POWER, 2012b). Specifically, soils within the undisturbed portions of the BMSP area (including the transmission line corridor) were deemed too sandy for tortoise burrows and vegetative forage was sparse (USFWS, 2012). Protocol-level desert tortoise surveys have not been performed on the transmission corridor to verify presence/absence. However, 30-foot transects were walked along the transmission corridor as part of rare plants surveys in May 2011 and no desert tortoise or its sign was observed (POWER, 2012b).

Protocol-level desert tortoise surveys were performed for the Blythe Solar Power Project (AECOM, 2010). The survey buffer for these surveys included areas just north of the Project site. The survey buffer was found to be low quality for desert tortoise based on low amounts of cover/forage and no tortoise sign detected (AECOM, 2010). Based on documented occurrences of desert tortoise individuals and sign from this and other previous survey efforts in the vicinity of the study area, desert tortoise are expected to occur predominantly northwest of the Project Area, rather than in the areas within and immediately surrounding the Project area.

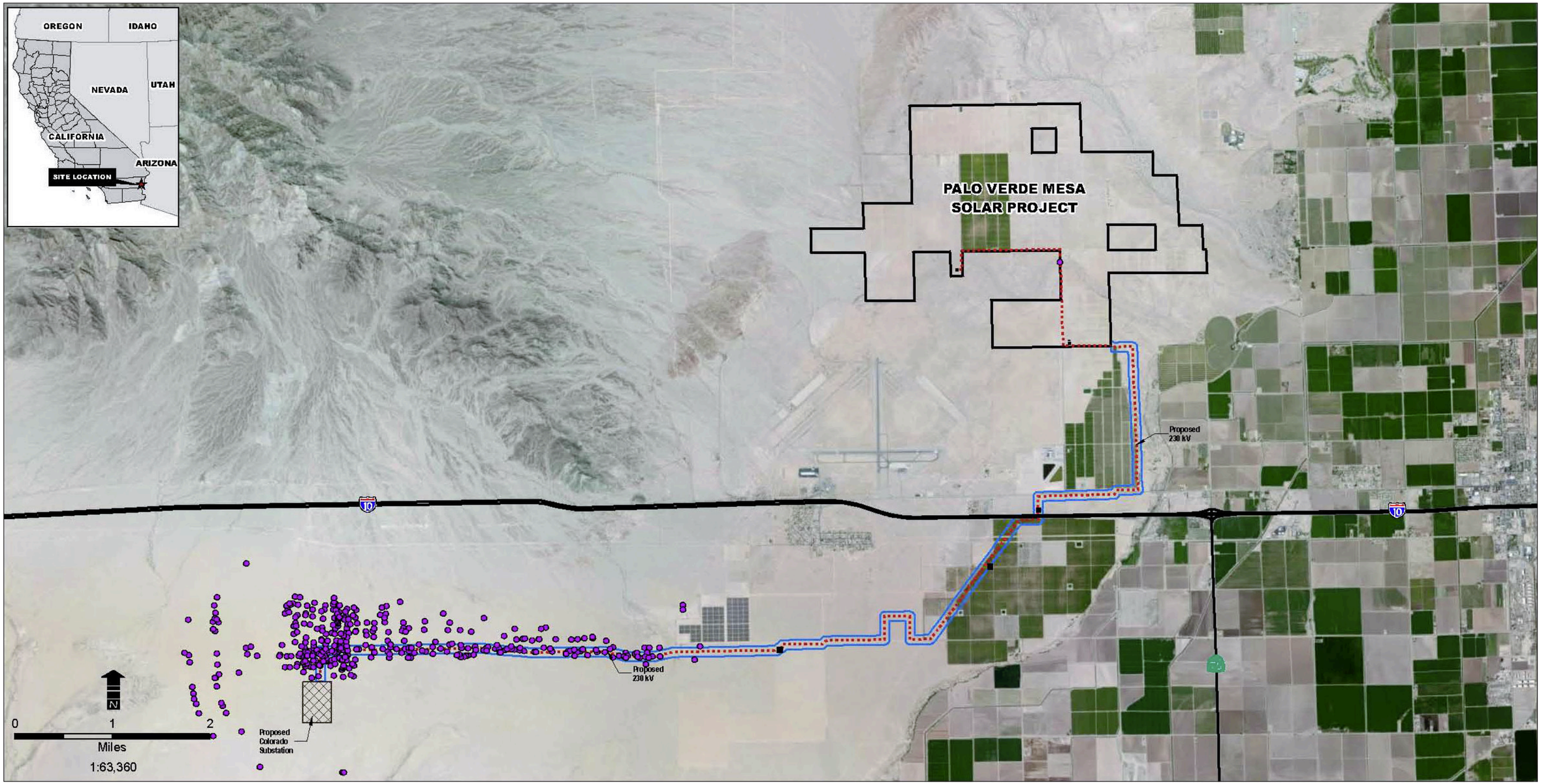


SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.4-2

Special-Status Wildlife Species



SOURCE: POWER Engineers

Figure 3.4-3
Mojave Fringe-Toed Lizard
Observed in the Study Area

TABLE 3.4-4
SPECIAL-STATUS WILDLIFE SPECIES RELEVANT TO THE PROJECT POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name Scientific Name	Sensitivity Status[1]	Habitat Requirements	Discussion	Potential for Occurrence[2]
Reptiles				
Desert tortoise (*Gopherus agassizii*)	FESA: Threatened CESA: Threatened	Various desert scrubs and desert washes up to about 5,000 feet, but not including playas.	Desert tortoise is present to north and west of study area in foothill habitat. Potential for desert tortoise to occupy the solar facility is considered low given that the majority of the solar facility site (i.e., about 90 percent) is characterized as agricultural land (i.e., non-irrigated wheat and citrus orchard). The desert tortoise has a moderate potential to occur on the gen-tie line based on the suitability of the habitat in the gen-tie corridor and tortoise sign surrounding the Colorado River Substation (AECOM, 2010; CH2M Hill, 2010).	Low - (solar facility site) Moderate - (gen-tie line)
Mojave fringe-toed lizard (*Uma scoparia*)	CDFW: Species of Special Concern, BLM: Sensitive	Fine, wind-blown sand in creosote bush scrub of the Mojave and northern Colorado Deserts. From below sea level to 2,952 feet.	No individuals detected during the survey of the solar facility site; however, potential habitat occurs on approximately 3 percent of the Project site. A substantial population is present on the gen-tie alignment, south of I-10 in association with sand sheets and dune habitat (POWER, 2012b).	Moderate- (solar facility site) Present- (gen-tie line)
Amphibians				
Couch's spadefoot toad (*Scaphiopus couchii*)	CDFW: Species of Special Concern, BLM: Sensitive	Various arid and semiarid environments. Breeds in desert ponds quickly following rainfall.	Suitable habitat is not known to occur on the Project site; however, some areas may support ponded water.	Low[3]
Birds				
Golden eagle (*Aquila chrysaetos*)	Eagle Protection Act, CDFW: Fully Protected, BLM Sensitive	Nest in rock cliff aerie	Known to region. Based on regional golden eagle surveys in 2010 and 2011, one active nest was reported approximately 10.9 miles of the Project boundary; the nearest inactive nest was 4.5 miles north of the proposed gen-tie line (TetraTech, 2011). Species may use the Project site for foraging.	Moderate (foraging)
Western burrowing owl (*Athene cunicularia*)	CDFW: Species of Special Concern Priority 2, BLM: Sensitive, USFWS: Bird of Conservation Concern	Found mainly in grassland and open scrub from the seashore to foothills. Also found in deserts and scrublands.	BUOW sign was observed in the north and northeast portion of the site in 2011; kit fox and ground squirrel burrows may be used by BUOW. Habitat marginally suitable for this species occurs within the gen-tie line corridors. In 2011, three active BUOW burrows were identified within the gen-tie study area (POWER, 2013a). May be occasionally present as foragers but unlikely to be present as residents.	High
Ferruginous hawk (*Buteo regalis*)	CDFW: Watch List (wintering)	Open country, primarily plains, prairies, badlands, sagebrush, shrubland, desert.	The species is known to winter in the Colorado River Valley. They are most often seen in agricultural fields around Blythe, but occasionally in the open desert as well. No breeding habitat exists on site.	High (wintering)

TABLE 3.4-4
SPECIAL-STATUS WILDLIFE SPECIES RELEVANT TO THE PROJECT POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name Scientific Name	Sensitivity Status[1]	Habitat Requirements	Discussion	Potential for Occurrence[2]
Swainson's hawk (*Buteo swainsoni*)	CESA: Threatened, USFWS: Bird of Conservation Concern, USFS: Sensitive	Nesting habitat consists of open habitats with trees, either isolated, scattered or in windrows.	Migrants more frequently occur near western edge of desert such as Borrego and Morongo valleys, as reflected in annual data from the various regional hawk-watch reports. No suitable breeding habitat exists on site; however, potential foraging habitat is present.	Moderate (foraging)
Gilded flicker (*Colaptes chrysoides*)	CESA: Endangered, USFWS: Bird of Conservation Concern	Found in habitats with giant cactus, Joshua trees (*Yucca brevifolia*), and riparian groves in desert lowlands and foothills (AOU, 1995).	Within California, this species now is confined to a small area of Joshua tree woodland in the eastern Mojave Desert (Cima Dome).	Absent
Yellow warbler (*Dendroica petechia sonorana*)	CDFW: Species of Special Concern, USFWS: Bird of Conservation Concern	Found along mature riparian woodlands that consist of cottonwood, willow, alder, and ash trees.	There is no breeding habitat for this species in the study area based on breeding range, but migrants have been recorded in the vicinity and migratory habitat is expected to be present on site.	Moderate (non-breeding)
Loggerhead shrike (*Lanius ludovicianus*)	CDFW: Species of Special Concern Priority 2, USFWS: Bird of Conservation Concern	Occurs in semi-open country with utility posts, wires, and trees to perch on.	Suitable habitat occurs throughout the study area. Although declining over most of the range in California and elsewhere and now absent over large areas, this species is still common in the California deserts. It was detected south of I-10 during spring surveys for the BMSP (POWER, 2012b).	Present
Gila Woodpecker (*Melanerpes uropygialis*)	CESA: Endangered, USFWS: Bird of Conservation Concern	Requires live tree-size cactus or dead trees (Winkler et al., 1995).	Nearest occupied habitat is near Blythe on the Colorado River, approximately 3.0 miles east and south of the Project site (CDFW, 2015). Desert washes may provide some suitable habitat the McCoy Wash. Well-developed Palo Verde/ironwood woodland habitat is not present on-site but may be present in McCoy Wash. Avian point count surveys have not identified Gila woodpecker activity on the site (POWER, 2012, b).	Low
Vermilion flycatcher (*Pyrocephalus rubinus*)	CDFW: Species of Special Concern	Open farmlands, shrubby grasslands, and streamsides and small wooded ponds in desert habitat. Found in diverse areas near open water.	Some suitable habitat is present within the agricultural areas of the study area, but available surface water is mainly restricted to irrigation channels.	Absent
Crissal thrasher (*Toxostoma crissale*)	CDFW: Species of Special Concern Priority 3	Occurs in dense riparian and mesquite scrub, microphyll woodland, and riparian washes with a dense understory of shrubs	Some habitat is present that could support species foraging but not typical for nesting.	Moderate (foraging)
Le Conte's thrasher (*Toxostoma lecontei*)	CDFW: Species of Special Concern, USFWS: Bird of Conservation Concern	Arid and open plains that are sparsely vegetated and dominated by saltbush and creosote bush	Suitable habitat for this species is present mainly in the creosote bush areas of the study area. Two individuals were detected in the 500-foot gen-tie line corridor south of I-10 during spring surveys for the BMSP (POWER, 2012b).	High (solar facility site) Present (gen-tie-line)
Sage Sparrow (*Amphispiza belli*)	CDFW: Species of Special Concern	During the fall migration this species is located in low desert scrub.	Suitable foraging habitat is present throughout the Project site; nesting not anticipated. Species was observed during Project surveys. (POWER, 2012)	Present (foraging)

TABLE 3.4-4
SPECIAL-STATUS WILDLIFE SPECIES RELEVANT TO THE PROJECT POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name Scientific Name	Sensitivity Status[1]	Habitat Requirements	Discussion	Potential for Occurrence[2]
Merlin (*Falco columbarius*)	CDFW: Watch List	Occurs in semi-open country with utility posts, wires, and trees to perch on.	Suitable foraging habitat is present throughout the study area. No suitable breeding habitat exists on site. Species was observed during Project surveys. (POWER, 2012b)	Present (foraging)
Prairie Falcon (*Falco mexicanus*)	CDFW: Watch List USFWS: Bird of Conservation Concern	Species prefers open habitats that consist of creosote bush and desert shrubs.	Suitable foraging habitat is present throughout the study area. No suitable breeding habitat exists on site. Species was observed during Project surveys.	Present (foraging)
Mammals				
Pallid bat (*Antrozous pallidus*)	CDFW: Species of Special Concern	This gregarious species usually roosts in small colonies in rock crevices and buildings, but may nest in caves, mines, rock piles and tree cavities.	Very little roosting habitat is present in the study area, and foraging habitat is limited to washes and areas of remaining intact habitat. The nearest documented occurrence is from 1919, approximately 4.5 miles south of the study area (CDFW 2015).	Moderate (foraging)
Hoary Bat (*Lasiurus cinereus*)	Tracked by CNDDB	In migration events, males are typically found in foothills, deserts, and mountains, while females are found in lowlands and coastal valleys. Water is required.	Few, if any, roosting sites within the Project area, and little availability of water. The closest documented occurrence in the CNDDB is from 1923, approximately 4.5 miles south of the study area (CDFW 2015).	Low (foraging)
California leaf-nosed bat (*Macrotus californicus*)	CDFW: Species of Special Concern, BLM: Sensitive, USFS: Sensitive	Lowland desert scrub, desert riparian and wash areas, alkali scrub, or palm oases. Requires rugged or rocky terrain with mines or caves for roosting.	Suitable foraging habitat is present throughout the study area, although roosting habitat is limited in the immediate region. A 2002 CNDDB record lists a colony of bats in the general vicinity (in the Roosevelt Mine quad), but specific location information is suppressed and it is unclear which species of bat may be present (CDFW 2015). The closest confirmed occurrence is from 1993 approximately 7.25 miles away.	Moderate (foraging)
Arizona myotis (*Myotis occultus*)	CDFW: Species of Special Concern	Lowlands of the Colorado River and adjacent desert mountain ranges. Roosts in tree hollows, rock crevices, and similar areas.	The closest documented occurrence is from 1942, approximately 10 miles southeast of the study area (CDFW 2015). Habitat may be present within McCoy Wash, which traverses the Project site.	Moderate (foraging)
Cave myotis (*Myotis velifer*)	CDFW: Species of Special Concern, BLM: Sensitive	Low elevation arid regions near the Colorado River and in adjacent mountains. Requires caves or mines for roosting.	Suitable foraging habitat is present throughout the study area, although roosting habitat is limited in the immediate region.	Moderate (foraging)

TABLE 3.4-4
SPECIAL-STATUS WILDLIFE SPECIES RELEVANT TO THE PROJECT POTENTIALLY OCCURRING IN THE STUDY AREA

Common Name Scientific Name	Sensitivity Status[1]	Habitat Requirements	Discussion	Potential for Occurrence[2]
Nelson's bighorn sheep (*Ovis canadensis nelsoni*)	BLM: Sensitive	Mountain slopes with sparse growth of trees above the desert floor in California.	Nelson's bighorn sheep is known within the region. While the species is generally associated with mountainous areas, desert floor areas are important for dispersal and seasonal movement. However, no records were found within the study area. In addition, the survey work conducted in 2011 and 2012 did not detect the species or sign that it utilizes this area. There is little suitable habitat within the study area for this species.	Low
American badger (*Taxidea taxus*)	CDFW: Species of Special Concern	Coastal sage scrub, mixed chaparral, grassland, oak woodland, chamise chaparral, mixed conifer, pinyon-juniper, desert scrub, desert wash, montane meadow, open areas, and sandy soils.	Suitable badger habitat occurs throughout the vicinity in undeveloped areas. Badger is present in adjacent areas surveyed for other projects. Suitable burrows were observed within the study area (CEC, 2009).	High
Desert kit fox (*Vulpes macrotis arsipus*)	Calif. Code of Regulations: PFM	Suitable habitat for this fossorial mammal consists of arid open areas, shrub grassland, and desert ecosystems.	Suitable kit fox habitat occurs throughout the vicinity, including the Project Area, in undeveloped areas. Kit fox is present in adjacent areas surveyed for other projects (CEC, 2009).	High

1. Sensitivity Status Key

Federal	State	BLM
Endangered Species Act (ESA)	California Department of Fish and Wildlife (CDFW)	Sensitive
U.S. Fish and Wildlife Service (USFWS)	California Endangered Species Act (CESA)	
	California Code of Regulations	
	PFM: Protected furbearing mammal	

2. Species Potential for Occurrence:
   Absent: Species and species habitat is not present within the study area
   Low Potential–low potential to occur because suitable habitat is of marginal quality
   Moderate Potential–has moderate potential to occur because suitable habitat was expected to be present but the species was not found during focused plant surveys
   Habitat Present–has high potential to occur because suitable habitat was expected to be present, and species is known to occur within the vicinity but was not found during focused plant surveys
   Present–detected during surveys or recorded in previous surveys

3. Note that this conclusion differs from the "absent" conclusion stated in the *Palo Verde Mesa Solar Project Biological Survey Report* (POWER, 2012), included as Appendix D. This species has not been documented on-site; however, potential habitat (temporarily ponded water) was noted on the Project site. This species is reported approximately 2.7 miles west of the Colorado Substation and approximately 10 miles west of the Project site. On this basis, a "low" potential for occurrence is used in this EIR.

SOURCES: CDFW, 2015a; POWER, 2012, b

State-listed Wildlife Species

No State-listed wildlife species or their sign were detected during surveys, although there are some patches of suitable habitat present to support certain State-listed species. The desert tortoise is state-listed as threatened and has potential to occur (refer to discussion above). There is also potential for the Swainson's hawk (*Buteo swainsoni*), state listed as threatened, to forage within the study area; however, nesting does not occur in the study area and the species was not detected during biological surveys (POWER, 2012). A more detailed discussion is provided in the *Palo Verde Mesa Solar Project Biological Survey Report* (POWER, 2012) (see Appendix D of this EIR).

Non-listed Special-Status Wildlife Species

Several non-listed special-status wildlife species were detected within the study area during the survey. These include sage sparrow (*Amphispiza belli*), horned lark (*Eremophila alpestris*), merlin (*Falco columbarius*), prairie falcon (*Falco mexicanus*), and loggerhead shrike (*Lanius ludovicianus*). These detections and species accounts are discussed in detail in the *Palo Verde Mesa Solar Project Biological Survey Report* (POWER, 2012) (see Appendix D of this EIR).

The golden eagle (*Aquila chrysaetos*) is a CDFW Fully Protected Species and Watch List Species and a USFWS Bird of Conservation Concern. Golden eagles or their nests were not observed during surveys for this Project and there are no known golden eagle nests in the general vicinity of the Project area (AECOM 2010, Tetra Tech 2011). The golden eagle does not have any nesting habitat within the study area and there are no active nests known to be present within 10 miles (CDFW, 2015). However, abundant foraging habitat is present in and around the study area, particularly south of I-10, and the species may enter into the study area while foraging away from its nesting sites.

Critical Habitat

The study area does not include any designated critical habitat for special-status plant or wildlife species. The Desert Tortoise Chuckwalla critical habitat unit is approximately 15 miles west of the study area.

Wildlife Corridors

The Project area could be used as a seasonal or non-seasonal movement corridor by various wildlife species. Wildlife movement activities typically fall into one of three movement categories: 1) dispersal (e.g., juvenile animals from natal areas, or individuals extending range distributions); 2) seasonal migration; and 3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover).

Regionally, the Project site is located to the east of the Palen/McCoy Wilderness (McCoy Mountains), south of the Big Maria Mountains Wilderness and Rice Valley Wilderness, north of the Palo Verde Mountains Wilderness, and immediately west/northwest of the City of Blythe and the Colorado River within the NECO planning area of the California Desert Conservation Area (CDCA). The NECO planning area includes several desert wildlife management areas (DWMAs) for the desert tortoise and additional wildlife habitat management areas (WHMAs) that protect

habitat that could support multiple species types. The study area does not overlap with any WHMAs or DWMAs (BLM and CDFW, 2002).

Because a large portion of the Project area is agricultural, wildlife movement between wilderness areas is not currently being impeded, nor is it being facilitated. Much of the Project area has a low cover of non-irrigated winter wheat. It is likely that wildlife presently use these lower-quality areas to pass between wilderness areas in the mountains and surrounding environment. The Project area as a whole does not provide much native forage or cover for wildlife, except in the areas where vegetative habitat is relatively intact or in the washes, particularly McCoy Wash, which may serve as funneling areas for wildlife that are passing through. The California Desert Connectivity Project, sponsored by Science and Collaboration for Connected Wildlands, provides land management agencies with information on optimal areas to maintain or restore ecological connectivity within California deserts. The closest planned linkage to the Project area is one between the Palen McCoy and Little Pichaco Wilderness Areas (South Coast Wildlands ND) (POWER, 2012). This planned linkage would be located southwest of the Project area.

There are few existing barriers to wildlife movement within the Project area. As shown in **Table 3.4-1**, approximately 80 percent the solar facility site supports production of non-irrigated wheat. There are several citrus groves within the Project area south of McCoy Wash, along with a ranch immediately north of the northern Project boundary and a communal complex immediately south of the southern Project boundary. The rest of the Project area is mostly zoned as agricultural.

Special Aquatic Resource Areas

There are several intermittent washes terminating in or passing through the Project area (Figure 3.4-1). The largest of these washes is the McCoy Wash, a tributary of the Colorado River that drains 210 square miles of surface water from the Big Maria Mountains, Little Maria Mountains, and McCoy Mountains, flowing northwest to southeast across the Project area (AECOM, 2009; EDAW AECOM, 2009). McCoy Wash and several of the other washes entering the Project area are also recognized by the National Wetlands Inventory as category R4SB, indicating that the “streambed includes the bed of a stream channel that is occupied by water intermittently during periods of abundant water availability” (USFWS, 2011). These washes may be regulated as Waters of the U.S. and/or Waters of the State. The Clean Water Act (33 U.S.C. §1251 et seq.) recognizes impacts to ephemeral drainages and washes. The adjacent Blythe Solar Power Project additionally recognized McCoy Wash as an “indirect hydrological connection with the Colorado River” (EDAW AECOM, 2009), which indicates that the wash may have jurisdictional protection based on its connectivity to the Colorado River.

3.4.2 Regulatory Setting

The Project must comply with various federal, State, and local laws. While some laws and policies provide constraints, others provide intent and direction for certain actions to occur. The following is a general overview of the legal context for the proposed Project relevant to biological resources.

Federal

Endangered Species Act of 1973; 16 USC §1531 et seq.; 50 CFR Parts 17 and 222

The Endangered Species Act (ESA) includes provisions for protection and management of species that are federally listed as threatened or endangered or proposed for such listing and of designated critical habitat for these species. The administering agency for this authority for non-marine species is the USFWS.

Migratory Bird Treaty Act: 16 USC §703-711; 50 CFR Subchapter B

The Migratory Bird Treaty Act (MBTA) includes provisions for protection of migratory birds, including prohibitions against any taking not authorized by federal regulation. The administering agency for this authority is the USFWS. The law contains no requirement to prove intent to violate any of its provisions. Wording in the MBTA makes it clear that most actions that result in "taking" or possession (permanent or temporary) of a protected species can be a violation of the act. The word "take" is defined as "pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect (including nests, eggs, and feathers)."

Bald and Golden Eagle Protection Act (16 USC §§668-668c)

Bald eagle protection began in 1940 with the passage of the Eagle Protection Act, which was later amended to include golden eagle and was renamed. The Bald and Golden Eagle Protection Act makes it unlawful to import, export, take, sell, purchase, or barter any bald eagle or golden eagle, their parts, products, nests, or eggs. Take includes pursuing, shooting, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing. Exceptions may be granted by USFWS for scientific or exhibition use, or for traditional and cultural use by Native Americans. However, no permits may be issued for import, export, or commercial activities involving eagles.

Clean Water Act (33 USC §1251 et seq.)

The Clean Water Act (CWA) is the principal federal statute protecting navigable waters and adjoining shorelines from pollution. The Clean Water Act is administered by the EPA and the USACE. The USACE is responsible for regulating the discharge of fill material into waters of the United States. Waters of the United States include lakes, rivers, streams and their tributaries, as well as wetland. Since its enactment, the CWA prohibits the discharge of pollutants into waters of the United States without a permit. Section 404 of the CWA provides that whenever any person dredges or places any fill material from or into waters of the U.S. including, without limitation, wetlands, streams, and bays (e.g., while undertaking road construction, bridge construction, or streambed alteration), a permit is required from the USACE. Through field reconnaissance surveys and analyses of National Wetlands Inventory (NWI) and watershed data, it is unlikely that there are any jurisdictional waters of the U.S. within the Project site. It is anticipated that the USACE will not assert jurisdiction over any waters and/or aquatic features occurring within the 500-foot gen-tie corridor.

Northern and Eastern Colorado Desert Coordinated Management Plan (BLM 2002)

The Northern and Eastern Colorado Desert Coordinated Management (NECO) Plan is a landscape-scale, multi-agency planning effort that protects and conserves the natural resources of the California portion of the Sonoran Desert while also managing its use for humans. This plan was prepared under the same regulations that implement the Federal Land Policy and Management Act (FLPMA) of 1976. The NECO planning area of the CDCA spans 5.5 million acres in the southeastern California Desert, and covers the Project area. The NECO Plan, which was adopted in December 2002, provides management direction for a variety of sensitive species and habitats on BLM and National Park Service land, as well as the U.S. Marine Corps Chocolate Mountain Aerial Gunnery Range.

The NECO Plan primarily addresses recovery of the desert tortoise (*Gopherus agassizii*), conservation of a variety of other species, and modification of management of wild burro herds in the planning area, and updates policies regarding off-highway vehicle use and public lands access and use. As part of its focus on desert tortoise recovery and sensitive species protection, the NECO Plan has established several Desert Wildlife Management Areas, which cover much of the designated critical habitat for the desert tortoise. Specifically, these Wildlife Management Areas consist of a system of integrated ecosystem management for special-status species and natural communities on federal lands, and regional standards and guidelines for public land health on BLM lands. The NECO Plan also establishes several Wildlife Habitat Management Areas, which include habitat for desert bighorn sheep and other sensitive species in the planning area (BLM 2002).

California Desert Conservation Area Plan of 1980, as amended

The CDCA Plan guides the management of all BLM-administered lands in the Mojave, Sonoran, and a small portion of the Great Basin Deserts. In total, the CDCA Plan includes an area of approximately 25 million acres, 12 million of which are public lands. The primary goal of the CDCA Plan is to provide guidance for the overall maintenance of the land while simultaneously planning for multiple uses and balancing the human needs with the need to protect the natural environment.

The CDCA Plan includes 12 elements: Cultural Resources; Native American; Wildlife; Vegetation; Wilderness; Wild Horse and Burro; Livestock Grazing; Recreation; Motorized Vehicle Access; Geology, Energy and Mineral Resources; Energy Production and Utility Corridors; and Land-Tenure Adjustment. Each of the elements contains goals and specific actions for the management, use, development, and protection of the resources and public lands within the CDCA, and is based on the concepts of multiple use, sustained yield, and maintenance of environmental quality. In addition, each element provides both a desert-wide perspective of the planning decisions for one major resource or issue of public concern and a more specific interpretation of multiple-use class guidelines for a given resource and its associated activities.

Wild Horse and Burro Act of 1971, as amended

Herd Areas (HAs) are those geographic areas where wild horses and/or burros were found at the time of the passage of the Wild Horse and Burro Act in 1971. Herd Management Areas are those areas within HAs where the decision has been made, through Land Use Plans, to manage for

populations of wild horses and/or burros. HAs are limited to areas of the public lands identified as being habitat used by wild horses and burros at the time of the passage of the Wild Horse and Burro Act in 1971. HA boundaries may only be changed when it is determined that areas once listed as HAs are later found to be used only by privately owned horses or burros, or the HA boundary does not correctly portray where wild horses and burros were found in 1971. The northern edge of the Chocolate-Mule Mountains Herd Area/Herd Management Area is approximately 2,500 feet from the gen-tie line and 6.5 miles from the solar facility boundary.

Executive Order 11312

This Executive Order from 1999 requires all federal agencies to prevent and control the introduction of invasive non-native species in cost-effective and environmentally sound manners. It established a nationwide Invasive Species Council and Invasive Species Advisory Committee to oversee and facilitate the implementation of the Executive Order.

State

California Endangered Species Act of 1984, California Fish and Game Code §§2050-2098

The California Endangered Species Act (CESA) includes provisions for the protection and management of species listed by the State as endangered or threatened, or designated as candidates for such listings. CESA includes a requirement for consultation "to ensure that any action authorized by a state lead agency is not likely to jeopardize the continued existence of any endangered or threatened species… or result in the destruction or adverse modification of habitat essential to the continued existence of the species" (CFGC §2090). Plants of California declared to be endangered, threatened, or rare are listed at 14 CCR §670.2. Animals of California declared to be endangered, threatened, or rare are listed at 14 CCR §670.5. The administering agency for the above authority is the CDFW.

California Fish and Game Code Section 3503, 3511, 4700, 5050, and 5515

These CFGC sections list bird (primarily raptor), mammal, amphibian, and reptile species that are classified as fully protected in California. Fully protected species are prohibited from being taken or possessed except under specific permit requirements. These Code sections also prohibit the take, possession, or needless destruction of the nests or eggs of any bird, including birds of prey or their nests or eggs, except as otherwise provided by the code or any regulation made pursuant thereto.

Native Plant Protection Act (CFGC §1900 et seq.)

The California Native Plant Protection Act prohibits importation of rare and endangered plants into California, "take" of rare and endangered plants, and sale of rare and endangered plants. CESA defers to the California Native Plant Protection Act, which ensures that State-listed plant species are protected when State agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the California Native Plant Protection Act are not protected under CESA but rather under CEQA.

California Fish and Game Code §1600-1616 – Streambed Alteration Agreement

This Code requires that any person, State or local government agency, or public utility notify the CDFW and obtain a streambed alteration agreement before they begin any construction project that will divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake, use materials from a streambed, or result in the disposal or disposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake. In general, CDFW jurisdiction extends to the top of the stream or bank, or to the outer edge of riparian vegetation, whichever is wider.

Porter-Cologne Water Quality Control Act of 1969 (California Water Code §13000 et seq.)

The Porter-Cologne Water Quality Control Act provides State coordination with the CWA, which is described above. It provides a mechanism by which the Regional Water Quality Control Boards certify federally-issued CWA permits to ensure the compatibility of federal and State water quality guidelines. The Act provides for the development and periodic review of water quality control plans (basin plans) that designate beneficial uses of California's surface waters and groundwater basins and establish narrative and numerical water quality objectives for those waters. Basin plans are primarily implemented by using the National Pollution Discharge Elimination System permitting regime to regulate waste discharges to ensure that water quality objectives are met. Waste discharges may include fill, any material resulting from human activity, or any other "discharge" that may directly or indirectly impact Waters of the State relative to the implementation of Section 401 of the CWA.

California Desert Renewables Energy Conservation Plan (DRECP)

The DRECP is a Natural Community Conservation Plan developed by a joint federal and State Renewable Energy Action Team (REAT) to provide for effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects. The REAT consists of the CEC, CDFW, BLM, USFWS, and counties impacted by the DRECP. The federal portion of the DRECP has been adopted; the non-federal portion remains in draft status. The DRECP is intended to provide long-term endangered species permit assurances, facilitate the review and approval of renewable energy projects in the Mojave and Colorado deserts in California, and provide a process for conservation funding to implement the DRECP. It is anticipated that the DRECP also would serve as the basis for one or more habitat conservation plans under the federal Endangered Species Act (ESA) and provide biological information necessary for consultation under ESA Section 10. The Project is proposed within the non-federal DRECP planning area.

Local

Riverside County General Plan

The Riverside County General Plan (2015) includes policies that address biological resources within the County boundaries. Countywide policies that seek to preserve biological resources are located in the Land Use Element and Open Space Element of the County General Plan, and include:

Land Use Element (LU)

Policy LU 9.1: Provide for permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, watercourses including arroyos and canyons, and scenic and recreational values (AI 10).

Policy LU 9.2: Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the General Plan and Federal and State regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act.

Policy LU 24.1: Cooperate with the California Department of Fish and Wildlife (CDFW), United States Fish and Wildlife Service (USFWS), and any other appropriate agencies in establishing programs for the voluntary protection, and where feasible, voluntary restoration of significant environmental habitats (AI 10).

Multipurpose Open Space Element (OS)

Policy OS 18.1: Preserve multi-species habitat resources in the County of Riverside through the enforcement of the provisions of applicable MSHCP's and through implementing related Riverside County policies.

City of Blythe General Plan

Policies that seek to preserve biological resources are located in the Open Space Element of the City General Plan (2007), and include:

Open Space and Conservation Element

Policy 15: Protect habitats that are sensitive, rare, declining, unique or represent valuable biological resources in the Planning Area.

Policy 16: Preserve and protect populations and supporting habitat of special status species within the Planning Area, including species that are State or federally-listed as Rare, Threatened, or Endangered, all federal “candidate” species for listing and other species on officially adopted federal and/or state listings, and all California Species of Special Concern.

Policy 17: Minimize impacts to sensitive natural habitats throughout the Planning Area. In new developments, emphasis should be placed on protecting and preserving valuable and sensitive natural habitats, the comprehensive habitat mapping and biological resource inventory prepared, as part of Plan preparation, shall be consulted when reviewing development applications.

Policy 18: Preserve and protect areas determined to function as regional wildlife corridors, particularly those areas that provide natural connections permitting wildlife movement between designated sensitive habitats and all areas being considered for future conservation because of their high value.

3.4.3 Methodology for Analysis

An impact assessment was conducted to identify and disclose potential direct, indirect, and cumulative impacts of the Project to wildlife and vegetation resources, including from actions that

alter wildlife habitats. Three areas are the focus of this analysis: (1) habitat change; (2) habitat fragmentation; and (3) disturbance.

Alteration may occur through direct habitat loss via surface disturbance or indirectly through the reduction in habitat quality such as increased noise or lighting levels or the presence of anthropogenic structures. All the biological data collected within the study area was mapped and an impact assessment and mitigation planning procedure was developed.

For detailed information regarding the findings of biological surveys and initial impact assessments, refer to the *Palo Verde Mesa Solar Project Biological Survey Report* (POWER, 2012), *Bird and Bat Conservation Strategy* (POWER, 2013b), and *Western Burrowing Owl Monitoring and Mitigation Plan* (POWER, 2013a) (see Appendix D of this EIR).

This analysis considers potential impacts to biological resources for the Project area and surrounding study area. Species or species habitat that were within 500 feet (250 feet on either side) of the gen-tie centerline were analyzed in detail for direct and indirect impacts to the species or habitat along the gen-tie corridor. In addition, species or species habitat within 500 feet of the Project solar array facilities were analyzed to review potential indirect or direct impacts that could occur from construction vehicles or equipment accessing the Project area. Species that were reviewed and considered to be absent or unlikely to occur are not included in the discussion below; however, these species are identified in the *Palo Verde Mesa Solar Project Biological Survey Report* (POWER, 2012) (see Appendix D of this EIR).

3.4.4 Applicable Best Management Practices

As part of the Project, the following applicable BMPs would minimize the environmental impacts associated with the proposed Project for biological resources. The BMPs are detailed below (*see also Table 2-4 in Chapter 2*) and are referenced by number in the following impact discussion:

BMP-1 **Drainage, Erosion, and Sedimentation Control Plan**. As part of the County of Riverside's Conditional Use Permit (CUP) requirements, a Drainage, Erosion, and Sedimentation Control Plan would be developed for the Project. The project shall implement Site design and Source control BMPs according to County Standards. The plan would address the drainage, erosion, and sediment control requirements to support all activities associated with construction, operation, maintenance, and decommissioning of the Project. For example, any stockpiles created would be kept on site, with an upslope barrier in place to divert runoff. Stockpiles would be sprayed with water, covered with tarpaulins, and/or treated with appropriate dust suppressants, especially in preparation for high wind or storm conditions. Certified weed-free straw bale barriers would be installed to control sediment in runoff water; straw bale barriers would be installed only where sediment-laden water can pond, thus allowing the sediment to settle out. Topsoil from the site would be stripped, stockpiled, and stabilized before excavating earth for facility construction. Topsoil would be segregated and spread on freshly disturbed areas to reduce color contrast and aid rapid revegetation. The Drainage, Erosion, and Sedimentation Control Plan shall also include site design and source control BMPs that minimize the potential for erosion

and off-site sedimentation.

BMP-2 **Stormwater Pollution Prevention Plan.** In compliance with requirements of the National Pollutant Discharge Elimination System (NPDES) permit, a Stormwater Pollution Prevention Plan (SWPPP) would be developed and prepared for the Project to ensure that protection of water quality and soil resources is consistent with County and State regulations. The plan would identify site surface water runoff patterns and include measures that prevent excessive and unnatural soil deposition and erosion throughout and downslope of the Project area and Project-related construction areas, and would also include measures for non-stormwater discharge and waste management. The SWPPP would cover all activities associated with the construction of the Project, including clearing, grading, and other ground disturbance such as stockpiling or excavation erosion control. The plan would prevent off-site migration of contaminated stormwater, changes in pre-Project storm hydrographs, or increased soil erosion.

BMP-3 **Fugitive Dust Abatement Plan.** As required by the Mojave Desert Air Quality Management District Rule 403, a Fugitive Dust Abatement Plan would be prepared to address fugitive dust emissions during Project construction, operation, maintenance, and decommissioning. The plan would include measures to minimize fugitive dust emissions from wrecking, excavation, grading, clearing of land, and solid waste disposal operations, and would take every reasonable precaution to prevent visible particulate matter from being deposited upon public roadways as a direct result of operations. During construction, all unpaved roads, disturbed areas (e.g., areas of scraping, excavation, backfilling, grading, and compacting), and loose materials generated during Project construction activities would be watered as frequently as necessary to minimize fugitive dust generation. However, the amount of water will be minimized each time to prevent temporarily ponding water that may occur as a result of the fugitive dust plan. In water-deprived locations, water spraying would be limited to active disturbance areas only, and non-water-based dust control measures would be implemented in areas with intermittent use or use that is not heavy, such as stockpiles or access roads. The dust suppression measures would consider the sensitivity of wildlife to the windborne dispersal of fugitive dust containing dust suppressants and the potential impact on future reclamation.

The Dust Abatement Plan includes three specific measures (BMP 3.1 through BMP 3.3) as listed below:

BMP-3.1 The following signage shall be erected not later than the commencement of construction. A minimum 48 inch high by 96 inch wide sign containing the following shall be located within 50 feet of each Project site entrance, meeting the specified minimum text height, black text on white background, on one inch A/C laminated plywood board, with the lower edge between six and seven feet above grade, with the contact name of a responsible official for the site and a local or toll-free number

that is accessible 24 hours per day:

[Site Name]	{four inch text}
[Project Name/Project Number]	{four inch text}
IF YOU SEE DUST COMING FROM	{four inch text}
THIS PROJECT CALL:	{four inch text}
[Contact Name], PHONE NUMBER XXX-XXXX	{six inch text}
If you do not receive a response, Please Call	{three inch text}
The MDAQMD at 1-800-635-4617	{three inch text}

BMP-3.2 For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization, durable polymeric soil stabilizers, or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from sand/fines deposits.

BMP-3.3 All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The owner/ operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule or project-specific biological mitigation prohibiting wind fencing

BMP-7 **Trash Abatement Plan**. A Trash Abatement Plan shall be developed that focuses on containing trash and food in closed and secure sealable containers, with lids that latch, and removing them periodically to reduce their attractiveness to opportunistic species, such as common ravens, coyotes, and feral dogs, that could serve as predators of native wildlife and special-status animals. The Plan would also establish a regular litter pick-up procedure within and around the perimeter of the Project area, and removal of construction-related trash containers from the Project area when construction is complete.

BMP-8 **Cleanup and Restoration.** Upon completion of construction activities, all unused materials and equipment shall be removed from the Project area. All construction equipment and refuse including, but not limited to, wrapping material, cables, cords, wire, boxes, rope, broken equipment parts, twine, strapping, buckets, and metal or plastic containers shall be removed from the site and disposed of properly after completion of construction. Any unused or leftover hazardous products shall be properly disposed of offsite.

BMP-9 **Hazardous materials.** As required by the Clean Air Act, Section 401 of the Clean Water Act, the Toxic Substance Control Act, and the Hazardous Materials Transportation Act, all vehicles and equipment must be in proper working condition to ensure that there is no potential for fugitive emissions or accidental release of motor oil, fuel, antifreeze, hydraulic fluid, grease, or other hazardous materials. Equipment must be checked for leaks prior to operation and repaired as necessary. Refueling of equipment must take place on existing paved roads, where possible, and not within or adjacent to drainages. Hazardous spills must be cleaned up immediately. Contaminated soil would be disposed of at an approved offsite landfill, and spills reported to the permitting agencies. Service/maintenance vehicles should carry appropriate equipment and materials to isolate and remediate leaks or spills, and an on-site spill containment kit for fueling, maintenance, and construction will be available.

Cleaning of construction vehicles at commercial car washes should be considered rather than washing vehicles in the Project area so that dirt, grease, and detergents are treated effectively at existing facilities designed to handle those types of wastes.

BMP-10 **Integrated Weed Management Plan.** In compliance with the Federal Noxious Weed Act and the Plant Protection Act, a Project-specific integrated weed management plan for the control of noxious weeds and invasive plant species would be prepared. The plan would identify presence, location, and abundance of weed species in the Project area and surrounding area adjacent to the Project, as well as identify suppression and containment measures to prevent the spread of weed species and introduction of weed species. Prevention techniques would include: limiting disturbance areas during construction to the minimum required to perform work; limiting ingress and egress to defined routes; maintaining vehicle wash and inspection stations; and closely monitoring the types of materials brought on site to minimize the potential for weed introduction. During operations, noxious and invasive weed management will be incorporated as a part of mandatory site training for groundskeepers and maintenance personnel. Training will include weed identification and the impacts on agriculture, wildlife, and fire frequencies. Training will also cover the importance of preventing the spread of noxious weeds and of controlling the proliferation of existing weeds.

BMP-11 **Project structures, gen-tie line, and building surfaces.** Project facilities would be sited to ensure that there is adequate space (i.e., setbacks of no less than 100 feet) between solar facilities and natural washes. These setbacks would preserve and maintain the natural washes' hydrological functions. The color and finish of Project structure and building surfaces that are visible to the public will be designed to ensure minimal visual intrusion, contrast, and glare. Grouped structures will be painted the same color to reduce visual complexity and color contrast. Materials, coatings, or paints having little or no reflectivity will be used wherever possible.

BMP-12 **Gen-tie lines.** Gen-tie line support structures and other facility structures shall be designed in compliance with current standards and practices to discourage their use

by raptors for perching or nesting (e.g., by use of anti-perching devices). This design would also reduce the potential for increased predation of special-status species, such as the desert tortoise. Mechanisms to visually warn birds (permanent markers or bird flight diverters) shall be placed on gen-tie lines at regular intervals to prevent birds from colliding with the lines (APLIC 2006; USFWS 2010). To the extent practicable, the use of guy wires shall be avoided because they pose a collision hazard for birds and bats. Necessary guy wires shall be clearly marked with bird flight diverters to reduce the probability of collision. Shield wires shall be marked with devices that have been scientifically tested and found to significantly reduce the potential for bird collisions. Gen-tie lines shall utilize non-specular conductors and non-reflective coatings on insulators.

BMP-13 **Ground and surface disturbance.** Construction boundaries would be clearly delineated to minimize areas of ground and surface disturbance. Ground-disturbing activities shall be minimized, especially during the rainy season. Construction-related activities (such as vehicle and foot traffic) would avoid areas with intact biological soil crusts. For cases in which impacts cannot be avoided, soil crusts would be salvaged and restored on the basis of recommendations by the County of Riverside and BLM once construction has been completed. Existing rocks, vegetation, and drainage patterns shall be preserved. No paint or permanent discoloring agents shall be applied to rocks or vegetation (to indicate surveyor construction activity limits or for any other purpose). All stakes and flagging shall be removed from the construction area and disposed of in an approved facility. Brush-beating, mowing, or use of protective surface matting rather than removing vegetation shall be employed. Clearing and disturbing of sensitive areas (e.g., steep slopes and natural drainages) and other areas shall be avoided outside the construction zone. Surface disturbance would be minimized by utilizing undulating surface disturbance edges; stripping, salvaging, and replacing topsoil; using contoured grading; controlling erosion; using dust suppression techniques; and restoring exposed soils to their original contour and vegetation.

BMP-14 **Travel and traffic.** Vehicular traffic on site shall be confined to existing or designated travel routes and designated work areas. Access to the construction site and staging areas shall be limited to authorized vehicles and only through the designated roads. The extent of habitat disturbance during construction shall be reduced by keeping vehicles on access roads and minimizing foot and vehicle traffic through undisturbed areas. Travel shall be limited to stabilized roads. Road maintenance activities shall avoid blading existing forbs and grasses in ditches and adjacent to roads. Abandoned roads and roads no longer needed shall be subsoiled to increase infiltration and reduce soil compaction, then recontoured and revegetated.

Construction traffic shall avoid unpaved surfaces (to reduce the risk of compaction) and reduce speed to lessen fugitive dust emissions. On unpaved or unstabilized surfaces within the construction site, speed limits (e.g., 20 mph) shall be posted with visible signs and enforced to minimize airborne fugitive dust. Project vehicle speeds

shall be limited in areas occupied by special-status animal species. Traffic shall stop to allow wildlife to cross roads. Shuttle vans or carpooling shall be used where feasible to reduce the amount of traffic on access roads. Workers shall be trained to comply with the speed limit, use good engineering practices, minimize the drop height of materials, and minimize the number and extent of disturbed areas. The Project developer shall enforce these requirements.

BMP-15 **New access roads and parking lots.** New access roads shall be designed and constructed to the appropriate road design standards, such as those described in BLM Manual 9113 or County standards, whichever is applicable. New access roads shall be designed to follow natural land contours in the Project area and avoid existing desert washes. The specifications and codes developed by the U.S. Department of Transportation (DOT) and County of Riverside Transportation Department are also to be taken into account. Primary access roads and parking lots shall be surfaced with aggregate that is hard enough that vehicles cannot crush it and thus cause dust or compacted soil conditions. Paving may also be used on access roads and parking lots. Alternatively, chemical dust suppressants or durable polymeric soil stabilizers would be used on these locations.

BMP-19 **Plants and wildlife.** In compliance with the California Fish and Game Code , while on the Project property, workers or visitors would be prohibited from: feeding wildlife; moving live, injured, or dead wildlife off roads, rights of way (ROWs), or the Project area; bringing domestic pets to the Project area; collecting native plants; and harassing wildlife. Areas where wildlife could hide or be trapped (e.g., open trenches, sheds, pits, uncovered basins, and laydown areas) would be covered. If the trenches or excavations cannot be covered, a ramp that will sufficiently to allow wildlife to escape shall be placed into the trench or excavated area, or exclusion fencing (i.e., silt fencing) shall be installed around the trench or excavation to prevent entrapment of wildlife. Open trenches, or other excavations that could entrap wildlife, shall be inspected by the qualified biologists daily and immediately before backfilling. For example, an uncovered pipe that has been placed in a trench should be capped at the end of each workday to prevent animals from entering the pipe. If a special-status species is discovered inside a component, that component must not be moved, and the qualified biologist shall determine the appropriate course of action. As open trenches could impede the seasonal movements of large game animals and alter their distribution, they would be backfilled as quickly as possible. Open trenches could also entrap smaller animals; therefore, escape ramps would be installed along open trench segments at distances identified in the applicable land use plan or by the best available information and science. If traffic is being unreasonably delayed by wildlife in roads, personnel would contact the Project biologist, who will take any necessary action.

Any vehicle-wildlife collisions would be immediately reported to the Project biologist. Observations of potential wildlife problems, including wildlife mortality, would be immediately reported to the BLM or other appropriate agency authorized

officer.

3.4.5 CEQA Significance Criteria

For the purpose of this analysis, the following thresholds of significance have been used to determine whether implementing the Project would result in a significant impact pursuant to CEQA. These thresholds of significance are based on Appendix G of the CEQA Guidelines. A biological resources impact is considered significant if implementation of the PVMSP would do any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish and Wildlife Service (USFWS) (see Impact BIO-1).
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS (see Impact BIO-2).
- Have a substantial adverse effect on federal protected wetlands as defined by Section 404 of the Clean Water Act (CWA) (including, but not limited to, marshes, vernal pools, and coastal areas) or any State-protected jurisdictional areas not subject to regulation under Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means (see Impact BIO-3).
- 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 (see Impact BIO-4).
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (see Impact BIO-5).
- Conflict with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or State habitat conservation plan (see Effects Found Not to Be Significant).

The following additional significance criteria from the County of Riverside Environmental Assessment Form are used in the analysis. A project could have potentially significant impact to Biological Resources if it would:

- Substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare, or threatened species (see Impact BIO-6).
- Have a substantial adverse effect, either directly or through habitat modifications, on any endangered, or threatened species, as listed in Title 14 of the California Code of Regulations (Sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (Sections 17.11 or 17.12) (see Impact BIO-1).

Effects Found Not To Be Significant

It has been determined that the PVMSP would result in no impacts related to the following significance criteria:

- Conflict with the provisions of an adopted habitat conservation plan; natural community conservation plan; or other approved local, regional, or State habitat conservation plan.

The PVMSP is not located within areas that contain provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan. No conservation plans (local, regional, or State) encompass the Study area; therefore, none would be impacted by the Project. No impact would occur.

3.4.6 Impact Analysis

Impact BIO-1: The Project could have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. This impact would be *less than significant with mitigation incorporated.*

Potential construction-, operation-, maintenance-, and decommissioning-related direct and indirect impacts to non-listed special-status species occurring within the Project area could occur as a result of construction activities. Construction of the solar facility and gen-tie lines would require ground-disturbing activities, including access construction and clearing and grading for structure installation work areas.

Construction

Special-Status Flora

The likelihood of encountering special-status plants is considered low throughout the citrus orchard and wheat fields that comprise nearly 90 percent of the solar facility site. Botanical surveys performed for the BMSP (POWER, 2012b) characterized special-status plant resources in the gen-tie alignment.

No federal- or State-listed plants were detected within the Project's solar facility site and gen-tie line corridor and the only listed plant species with potential to occur on site, Coachella Valley milk-vetch, has a low potential for occurrence (Table 3.4-3). Several non-listed special status species were determined be present or have a high potential for occurrence based on botanical surveys performed in 2011, including Harwood's milk-vetch, Abram's spurge, Las Animas colubrina, and Harwood's woollystar (see Table 3.4-3). The PVMSP could also result in direct impacts to non-listed special-status plant species that were identified in the gen-tie alignment. Based on CNDDB records, Harwood's woollystar (CNPS List 1B.2) and Harwood's milk-vetch (CNPS List 2.2) are present within the gen-tie line portion of the proposed Project (CDFW, 2015).

Direct impacts to plants can include crushing or removal of adult plants, bulbs, or seeds by vehicles, personnel, or construction activities. BMP-14 (Travel and traffic) would minimize the potential for direct impacts to plants by limiting vehicular traffic to existing or designated routes

and work areas. Direct habitat loss could also occur as a result of the construction of new gen-tie structures or the construction of new access roads along the ROW.

Potential temporary, indirect impacts to special-status plant species could arise from unmitigated runoff and sedimentation, erosion, fugitive dust, and unauthorized access outside of the disturbance area by construction workers. Runoff, sedimentation, and erosion can adversely impact plant populations by damaging individuals or by altering site conditions sufficiently to favor other species (native and non-natives) that would competitively displace the special-status species. Construction-generated fugitive dust can adversely affect plants by reducing the rates of metabolic processes, such as photosynthesis and respiration, and may affect their nutritional qualities for wildlife. BMP-1 (Drainage, Erosion, and Sedimentation Control Plan), BMP-2 (Stormwater Pollution Prevention Plan), and BMP-3 (Fugitive Dust Abatement Plan) would minimize these potential indirect impacts to special-status plants that may arise from ground-disturbing construction activities.

The introduction and establishment of exotic species within, or adjacent to, special-status plant populations can adversely affect native species by reducing growth in addition to causing dispersal and recruitment of non-natives. Non-native invasive plant species are opportunistic and often occupy disturbed soils such as those created in transmission line corridors and areas of exposed bare ground resulting from ground disturbing activities. In addition, where non-native plants replace native plants, they may have negative effects on herbivorous wildlife in the area. BMP-10 (Integrated Weed Management Plan) would minimize the introduction and proliferation of non-native invasive plant species that commonly accompanies construction projects.

Impacts to special-status plant species before implementation of mitigation measures would be significant. Mitigation Measure BIO-2 would reduce the potential direct and indirect impacts to special-status plant species during construction of the proposed gen-tie line and solar array facility to less than significant levels by requiring pre-construction surveys to identify existing populations of special-status plants near construction areas and implementation of impact avoidance and minimization measures if populations are detected.

Special-Status Wildlife Species

No federal- or State-listed species have been documented on the Project site based on the records search or were detected during survey work conducted in 2012. The non-listed special-status wildlife species discussed below have at least the moderate potential to be present, however, based on previous records and the presence of suitable habitat. Direct and indirect impacts of construction activities are discussed below in connection with the species likely to be affected by each activity.

Potential lighting impacts may impact special status wildlife species in the study area. Increased nighttime lighting can adversely affect wildlife in adjacent habitat through disruption of nocturnal behaviors such as sleeping (for diurnal species), foraging, breeding, and migration. Construction of the Project would generally occur during daytime hours and no overnight construction would occur. In the event that work is performed after dusk to meet the construction schedule, however, construction crews would use minimal illumination in order to perform the work safely. All

lighting would be directed downward and shielded to focus illumination on the desired work areas only, and to prevent light spillage onto adjacent properties. Moreover, the Project would include motion-sensitive security lighting, which would be installed at Project site access points. Motion-sensitive lighting would be calibrated to avoid activation by small animals, and timers would be used to automatically turn off lighting after a set period of time. Security lighting would be directed downward and shielded to focus illumination on the Project site only, and to prevent light spillage onto adjacent habitat. Hence, indirect impacts to wildlife resulting from lighting would be minimized through Project design and the potential for spillover lighting to adversely affect wildlife would be less-than-significant.

Direct and indirect impacts to avian species may occur due to birds colliding with Project facilities and equipment including transmission wires, fencing, array structures, and heavy equipment. These impacts could occur during construction, operation or decommissioning. However, they are of primary importance during operation and are therefore addressed in the discussion of operational impacts below.

Desert Tortoise

Construction of the proposed Project would result in the permanent loss of potential desert tortoise habitat. However, the majority of the solar facility site (i.e., about 90 percent) is characterized as agricultural land (i.e., non-irrigated wheat and citrus orchard), which does not present suitable habitat for the species. Habitat quality along the transmission line corridor is higher when compared to the solar facility site but is characterized as marginal desert tortoise habitat, generally supporting soils that are too sandy for tortoise burrows and supporting sparse vegetative forage. Thus, the desert tortoise habitat that would be affected by the proposed Project is of limited quality and extent. Because tortoises may use desert washes as habitat, excessive indirect disturbance to the washes that traverse the solar facility site as a result of construction would degrade and possibly reduce the quality of desert tortoise habitat in these areas. Further, during construction, increased predation could occur from ravens, coyotes, and feral dogs, which are attracted to human activity to scavenge for food. Construction activities that result in desert tortoise mortality or the degradation of occupied desert tortoise habitat would be considered a take under FESA and CESA.

While there is potential for desert tortoise to occur on the solar facility site, the likelihood of occurrence is considered low given that the majority of the solar facility site is not suitable desert tortoise habitat. While the species does have moderate potential to occur within the marginal habitat present along the gen-tie corridor, the USFWS previously issued a memoranda for the BMSP proposed gen-tie line, which would be utilized by the Palo Verde Mesa gen-tie alignment, stating that construction of the proposed gen-tie line would “not likely to incidentally take or otherwise adversely affect desert tortoise” (USFWS, 2012). This determination was based on known species distribution and specific conservation measures that would be employed to protect tortoises during construction.

Impacts to desert tortoise resulting from construction of the proposed Project can be avoided to some extent by the implementation of BMPs. BMP-7 (Trash Abatement Plan) would minimize attraction of opportunistic predators of the desert tortoise (e.g., ravens and feral dogs) by

controlling litter onsite. In addition, BMP-12 (Gen-tie lines) would minimize increased raven predation pressures on desert tortoise with design standards to discourage perching. BMP-10 (Integrated Weed Management Plan) would minimize the introduction and proliferation of non-native invasive plant species that commonly accompanies construction projects and which can degrade desert tortoise habitat. BMP-14 (Travel and Traffic) and BMP-19 (Plants and Wildlife) would reduce potential direct impacts to individuals by limiting vehicular traffic to existing or designated routes and work areas, minimizing the potential for individuals to become trapped in open trenches, and prohibiting the handling or harassment of individuals.

The potential effect on habitat is of sufficient quality and quantity to potentially adversely affect the species even after implementation of BMPs. Thus, impacts before implementation of mitigation measures would be potentially significant. Implementation of Mitigation Measure BIO-1 and BIO-5 would reduce the potential direct and indirect impacts to desert tortoise during construction to levels less than significant. Mitigation Measure BIO-1 specifically requires bi-weekly monitoring by a Lead Biologist to ensure sensitive biological resources such as desert tortoise are avoided. Mitigation Measure BIO-5 specifically requires implementation of desert tortoise conservation measures prescribed by USFWS (2012) for the BMSP to avoid take of the species. Among other requirements, these conservation measures require installation of desert tortoise exclusion fencing, pre-construction clearance surveys, construction monitoring by a "qualified biologist", and a desert tortoise education program. Mitigation Measure BIO-5 also includes refuse disposal requirements to reduce attraction of ravens, thereby reducing the potential predation-related direct and indirect impacts to desert tortoise. Take of the species would not be authorized without authorization from USFWS and CDFW. Thus, any tortoises that are observed on or near access roads will be allowed to move out of the way on their own, and at no point will tortoises be handled without advance permission from USFWS and CDFW, and then only by approved biologists.

Mojave Fringe-toed Lizard

Suitable Mojave fringe-toed lizard habitat is located throughout the gen-tie line corridor and potential habitat was detected on approximately three percent of the main Project area (creosote bush scrub habitat). The species was found in high abundance throughout the gen-tie line portion of the Project and detected during spring surveys conducted for the BMSP (POWER, 2012b). The Project would remove a portion of the available habitat on the gen-tie line. In addition to habitat loss, construction of the Project may result in temporary displacement of individuals out of the construction area, crushing by equipment or crew, or increased susceptibility to predation during construction. Because eggs are laid in the sand, construction may destroy eggs that are within the study area during the breeding season.

Long-term predation vulnerability may occur due to vegetation loss, which decreases dispersal and refuge opportunities from predators. In addition, increased perching opportunities resulting from construction of the proposed gen-tie line increases this species' predation vulnerability. Compaction of sandy areas due to construction and vehicular traffic may degrade habitat suitability for this fossorial species. Because this species is mostly herbivorous as an adult, proliferation of non-native plant species that out-compete native plants could have negative impacts on the Mojave fringe-toed lizard. The loss of known and potential habitat and potential

direct and indirect effects to Mojave fringe-toed lizards on the Project site and gen-tie line is potentially significant.

Impacts to Mojave fringe-toed lizard resulting from construction of the proposed Project can be avoided to some extent by the implementation of BMPs. BMP-7 (Trash Abatement Plan) would minimize attraction of opportunistic predators by controlling litter onsite. In addition, BMP-12 (Gen-tie lines) would minimize increased predation pressures on the species with design standards to discourage avian perching. BMP-10 (Integrated Weed Management Plan) would minimize the introduction and proliferation of non-native invasive plant species that commonly accompanies construction projects and which can degrade Mojave fringed-toed lizard habitat. BMP-14 (Travel and Traffic) and BMP-19 (Plants and Wildlife) would reduce potential direct impacts to individuals by limiting vehicular traffic to existing or designated routes and work areas, minimizing the potential for individuals to become trapped in open trenches, and prohibiting the handling or harassment of individuals. However, impacts to the Mojave fringe-toed lizard before implementation of mitigation measures would remain potentially significant. The implementation of Mitigation Measure BIO-8 would reduce the potential direct and indirect impacts to the Mojave fringe-toed lizard during construction of the proposed gen-tie line to less than significant levels by requiring habitat-based compensatory mitigation at a 3:1 ratio for the permanent loss of suitable habitat. Habitat-based compensation at a 3:1 ratio ensures that the loss of habitat is sufficiently offset by the long-term conservation of suitable habitat elsewhere.

Western Burrowing Owl

Protocol surveys were conducted in 2011 and 2013 to document the presence or absence of burrowing owl within the study area and, if present, their abundance and the amount of suitable habitat (POWER, 2012b and 2013a). No active BUOW burrows were identified on the solar facility site prior site surveys; however, BUOW sign was observed in the north and northeast portion of the site in 2011 (POWER, 2013a). The solar array site contains habitat, particularly near washes, that would support BUOW burrows, and some burrows were observed in the field that had the potential to be BUOW burrows (POWER, 2013a). In 2011, three active BUOW burrows were identified within the gen-tie study area (POWER, 2012b).

If active burrows are present at the time of construction, construction activities on both the solar facility site and the gen-tie line could cause the direct loss of active nests or loss of BUOW nesting or foraging habitat. Direct impacts to BUOW could also result from an increase in vehicle traffic while the Project is under construction and, consequently, an increase in vehicular strikes of BUOW. Project noise, vibration, or visual disturbance may also affect burrowing owls. The Project may result in increased common raven and raptor predation on juvenile BUOW as associated with the addition of new elevated perching sites, including the gen-tie structures, perimeter fencing, and gen-tie lines. Other native or introduced animals that may be drawn to human activity and subsequently prey upon burrowing owls include coyotes, cats, or dogs (Bates, 2006). Additionally, temporarily ponded water during construction (e.g., from dust suppression activities) and garbage from increased human presence might attract common ravens.

Impacts to BUOW resulting from construction of the proposed Project can be avoided to some extent by the implementation of BMPs. BMP-7 (Trash Abatement Plan) would minimize

attraction of opportunistic predators of the BUOW (e.g., feral dogs) by controlling litter onsite. In addition, BMP-12 (Gen-tie lines) would minimize increased raptor and raven predation pressures on juvenile BUOW with design standards to discourage perching. BMP-10 (Integrated Weed Management Plan) would minimize the introduction and proliferation of non-native invasive plant species that commonly accompanies construction projects and which can degrade BUOW habitat. BMP-14 (Travel and Traffic) and BMP-19 (Plants and Wildlife) would reduce potential direct impacts to individuals by limiting vehicular traffic to existing or designated routes and work areas and prohibiting harassment of individuals. However, potential direct and indirect impacts to BUOW and their habitat would remain potentially significant prior to the implementation of mitigation measures. Mitigation Measure BIO-6 would reduce the potential direct and indirect impacts to the BUOW during construction of the proposed gen-tie line and solar array facility to less than significant levels. This mitigation measure requires development and implementation of a BUOW mitigation and monitoring plan to further reduce potential impacts. In addition, BIO-6 notes disturbance of owls or occupied burrows during the breeding season (February 1 through August 31) will not be permitted. Following implementation of the above-identified measures, potential direct and indirect impacts to burrowing owl would be less than significant.

Golden Eagle, Swainson's Hawk, and Other Raptors

Suitable foraging habitat for raptor species includes open desert scrub communities present on and adjacent to the Project site, and two protected raptor species, merlin and prairie falcon, were observed during Project surveys; however, nesting was not identified on the Project site.

Golden eagle surveys for the McCoy Solar Energy Project (TetraTech, 2011) detected four golden eagle nests in 2010 and 15 in 2011 in the McCoy, Little Maria, and Big Maria Mountains. Of those nests, only one was determined to be active, in 2010, and was not determined to be active with golden eagles during the 2011 surveys. This nest is located approximately 10.9 miles north of the Project site. The nearest inactive golden eagle nest detected by TetraTech (2011) was approximately 4.5 miles north of the proposed gen-tie line or approximately five miles north of the Colorado River Substation.

The Project area has few suitable structures that could support raptor nesting, but there is a moderate potential for foraging. Foraging habitat is presumably not available within the orchards that are located in the solar facility, as most raptor species prefer to forage in wide open areas with minimal vertical obstructions.

If nesting raptors were present during construction activities, the Project would have the potential to impact raptor species through direct mortality or injury. The availability of suitable foraging habitat on the Project site for raptors would be reduced or lost with implementation of the Project. In addition, Project construction may lead to the degradation of suitable foraging habitat adjacent to the areas that would be cleared. This could occur through the spread of non-native plant species as Project vehicles drive through areas or as seeds are dispersed by wind. Over time, this may result in increasing amounts of non-native weed infestations in areas that may otherwise not be infested, leading to a degradation of the habitat and its suitability for supporting native wildlife that would serve as raptor prey.

As part of the Project, BMP-10 (Integrated Weed Management Plan) would minimize the introduction and proliferation of non-native invasive plant species that commonly accompanies construction projects and which can degrade raptor foraging habitat. In addition, BMP-12 (Gen-tie lines) would minimize collisions with overhead lines with installation of bird flight diverters. However, potential direct or indirect impacts to golden eagle and other raptors would remain potentially significant prior to the implementation of mitigation measures. Mitigation Measure BIO-7 would reduce potential impacts to less than significant levels by requiring pre-construction surveys prior to construction activities taking place during the bird breeding season to locate active nests and establish avoidance buffers to avoid and minimize potential impacts. Additional protective measures have been identified in the draft *Bird and Bat Conservation Strategy* that would be implemented to reduce potential impacts to avian species during construction and operation and maintenance of the gen-tie line and solar array facility (POWER, 2013b) (see Appendix D of this EIR). Subject to USFWS review and approval, implementation of the *Bird and Bat Conservation Strategy* would be required for the life of the Project.

American Badger

American badger was not detected during surveys of the Study area, and no badger burrows were definitely identified (POWER, 2012b). However, badger is present in adjacent areas surveyed for other projects (CEC, 2009) and potential burrows were observed within the study area. Accordingly, this species may occur onsite and, if present, the Project has the potential to directly impact individual badgers through direct mortality or injury during construction.

Project construction would also potentially result in indirect impacts to off-site American badger breeding habitat or burrows and adjacent foraging habitat. The Project could potentially result in: 1) habitat fragmentation, where removal of habitat elements result in isolated patches of formerly connected habitat; and 2) edge effects where Project facilities would lead to increased noise, lighting, exotic plants and opportunistic species invasion (e.g., coyotes or feral dogs).

Impacts to American badger resulting from construction of the proposed Project can be avoided to some extent by the implementation of BMPs. BMP-7 (Trash Abatement Plan) would minimize attraction of opportunistic species (e.g., coyotes and feral dogs) by controlling litter onsite. BMP-10 (Integrated Weed Management Plan) would minimize the introduction and proliferation of non-native invasive plant species that commonly accompanies construction projects and which can degrade badger habitat. BMP-14 (Travel and Traffic) and BMP-19 (Plants and Wildlife) would reduce potential direct impacts to individuals by limiting vehicular traffic to existing or designated routes and work areas, minimizing the potential for individuals to become trapped in open trenches, and prohibiting the handling or harassment of individuals. However, impacts to this species before implementation of mitigation measures would remain potentially significant. Mitigation Measures BIO-1 and BIO-3 would reduce the potential direct and indirect impacts to the American badger during construction of the PVMSP to less than significant levels. Mitigation Measure BIO-1 specifically requires bi-weekly monitoring by a Lead Biologist to ensure sensitive biological resources such as American badger individuals and potential dens are avoided. Mitigation BIO-3 specifically requires pre-construction surveys to identify and monitor potential dens and measures to passively relocate individuals. Mitigation BIO-3 requires notification to CDFW if an active natal den is identified during pre-construction surveys.

Desert Kit Fox

No desert kit foxes were detected during the survey effort; however, potential desert kit fox burrows and complexes are distributed throughout the entire solar array site and within the gen-tie line corridors (POWER, 2012), and kit fox is present in adjacent areas surveyed for other projects (CEC, 2009). Project activities may result in individuals being crushed or trapped within burrows. The Project also may result in an exacerbation of the region's kit fox distemper outbreak, first observed at the Genesis Solar Energy Project in October 2011 and most often spread by contact with other infected animals.

Indirect impacts of Project construction would potentially impact off-site desert kit fox breeding habitat or burrows and adjacent foraging habitat. The Project could potentially result in: 1) habitat fragmentation, where removal of habitat elements result in isolated patches of formerly connected habitat; or 2) edge effects where Project facilities would lead to increased noise, lighting, exotic plants and opportunistic species invasion (e.g., coyotes or feral dogs).

Impacts to desert kit fox resulting from construction of the proposed Project can be avoided to some extent by the implementation of BMPs. BMP-7 (Trash Abatement Plan) would minimize attraction of opportunistic species (e.g., coyotes and feral dogs) by controlling litter onsite. BMP-10 (Integrated Weed Management Plan) would minimize the introduction and proliferation of non-native invasive plant species that commonly accompanies construction projects and which can degrade kit fox habitat. BMP-14 (Travel and Traffic) and BMP-19 (Plants and Wildlife) would reduce potential direct impacts to individuals by limiting vehicular traffic to existing or designated routes and work areas, minimizing the potential for individuals to become trapped in open trenches, and prohibiting the handling or harassment of individuals. However, impacts before implementation of mitigation measures would remain potentially significant. Implementation of Mitigation Measures BIO-1 which requires the Lead Biologist to monitor the work area bi-weekly during ground disturbing construction activities, and BIO-4 which requires pre-construction surveys to identify and monitor potential dens and measures to passively relocate individuals, would reduce the potential direct and indirect impacts to the desert kit fox during construction of the PVMSP to less than significant levels. Mitigation BIO-4 requires notification to CDFW if an active natal den is identified during pre-construction surveys.

LeConte's Thrasher, Loggerhead Shrike, and Other Migratory Birds

Several bird species protected by the MBTA were observed on and adjacent to the Project site during surveys (see Appendix D, *Palo Verde Mesa Solar Project Biological Survey Report* [POWER, 2012], pages 57-58). In addition, the Project site contains suitable nesting habitat for a variety of native avian species common to the desert. Of these, LeConte's thrasher and loggerhead shrike are special status species that were not detected on-site, but were both detected during prior surveys of the proposed transmission line corridor south of I-10 (POWER, 2012b).

The majority of the existing land use on the solar facility site consists of active agriculture, disturbed creosote bush scrub, and fallow fields. Activities associated with the agricultural land limit birds from actively using the land for purposes other than foraging. Since most of the solar facility site has nearly level to gently sloping topography, no mass grading would be required for

the installation of the solar facility. Some of the parcels where facilities and arrays would be located would require light grubbing for leveling and trenching.

The Project would potentially result in direct construction-related impacts to nesting migratory birds on the solar facility site. The removal of vegetation associated with the limited grading or light grubbing may result in direct impact to nests, eggs, nestlings, and recently fledged young that cannot safely avoid equipment. There is the potential for species to utilize the solar facility site or gen-tie line corridor for nesting, and these species may be directly impacted during construction activities.

Indirect impacts to migratory birds would include increased common raven and raptor predation associated with the addition of new elevated perching sites—including the structures, the gen-tie lines, perimeter fencing, and support structures—and ponded water, which are likely to attract common ravens, as discussed previously. Temporary, indirect impacts would be likely to arise from construction-generated fugitive dust accumulation on surrounding vegetation; construction-related erosion, runoff, and sedimentation into plant communities could result in destruction and/or avoidance of migratory bird habitat. Additionally, construction-related noise could cause migratory bird nest abandonment in areas adjacent to construction in the disturbance area. Indirect impacts from these construction-related activities would be temporary, as these impacts would end with cessation of Project construction.

Impacts to migratory birds resulting from construction of the proposed Project can be avoided to some extent by the implementation of BMPs. BMP-10 (Integrated Weed Management Plan) would minimize the introduction and proliferation of non-native invasive plant species that commonly accompanies construction projects and which can degrade migratory bird habitat. In addition, BMP-12 (Gen-tie lines) would minimize increased raven and raptor predation pressures on migratory birds with design standards to discourage perching; BMP-12 would also minimize collisions with overhead lines with installation of bird flight diverters. However, impacts before implementation of mitigation measures would be significant. Implementation of Mitigation Measure BIO-7 would reduce the potential direct and indirect impacts to migratory birds during construction to less than significant levels by requiring pre-construction surveys prior to construction activities taking place during the bird breeding season to locate active nests and establish avoidance buffers to avoid and minimize potential impacts. In addition, the draft *Bird and Bat Conservation Strategy* would be finalized and implemented to protect migratory birds (POWER, 2013b) (see Appendix D of this EIR).

Operation and Maintenance

Habitat alteration during the construction phase would reduce the potential of the site to support special-status plant and wildlife species during operation and maintenance. In addition, the Project site would be fenced for security and would incorporate minimal lighting. Site fencing will adhere to USFWS design guidelines (USFWS, 2009) to exclude desert tortoise from the Project site. Raptor prey sources are expected to inhabit the area around solar panels; however, they would not be easily detectable by raptors flying overhead. Raptors may still be able to hunt for rodents, small birds, and reptiles in solar fields from perches such as the solar panels themselves or fencing and utility structures surrounding the facilities.

The use of minimal site lighting would avoid any edge effects that the Project may have on surrounding lands. During the operation and maintenance phase, the Project is not expected to generate noise that would disturb wildlife. Vehicle use would similarly be minimal during operation and maintenance phase, with less than significant impacts to sensitive biological resources. During the operation and maintenance phase as part of the Project, BMP-7 (Trash Abatement Plan) would avoid the attraction of common ravens, coyotes, and feral dogs that could serve as wildlife predators.

As described for the construction phase, creation of the gen-tie line within habitat for the Mojave fringe-toed lizard could increase this species vulnerability to predation during the operation and maintenance phase. The gen-tie line would potentially increase raptor perching opportunities within occupied habitat. This potential indirect impact to the Mojave fringe-toed lizard would be potentially significant. As proposed during construction, the implementation of Mitigation Measure BIO-8 would reduce potential indirect impacts to the Mojave fringe-toed lizard during construction of the proposed gen-tie line to less than significant levels by requiring habitat-based compensatory mitigation at a 3:1 ratio for the permanent loss of suitable habitat. Habitat-based compensation at a 3:1 ratio ensures that the loss of habitat is sufficiently offset by the long-term conservation of suitable habitat elsewhere.

Avian Impacts

Direct and indirect impacts to avian species may occur during Project construction, operation, and decommissioning through collisions with Project facilities and equipment including transmission wires, fencing, array structures, and heavy equipment. Risk factors that are typically associated with avian collisions with man-made structures include size of facility, height of structures, and specific attributes of structures (guy wires and lighting/light attraction), as well as siting in high risk areas, frequency of inclement weather, type of development and species or taxa at potential risk. The role of these risk factors has been outlined in the USFWS draft guidelines for wind turbines (USFWS 2012) and communication towers (USFWS 2013), as well as by various publications in the peer reviewed literature (Gehring et al. 2009, 2011; Kerlinger et al. 2010; Kagen et al. 2014). The latter references quantify three of the risk factors. Such collisions can result in injury or mortality, including, in the case of power lines, from electrocution. This is a potentially significant impact of the Project.

The numbers or species of birds that may be affected by collisions with solar panels or other infrastructure cannot be known with certainty, though ongoing monitoring data from solar projects within the state suggest that a variety of birds may be susceptible to collisions with panels (Genesis Solar, LLC 2013a, 2013b, and 2013c; Ironwood Consulting, Inc. 2012, 2013a, 2013b). Solar panels are both reflective and have a strong polarization signature – elements thought to mimic water or suitable related habitat. As a result, some have theorized that solar panels can attract species that mistake the panels for bodies of water, potentially leading to increased collision-related and other risks. For this reason, the phenomenon sometimes colloquially is referred to as the “fake lake effect.” Some postulate that this phenomenon could be attracting birds to solar project sites thereby exposing the birds to greater risk of impacts such as potential collision with project infrastructure, the possibility of being stranded within site fencing once they land, or other forms of distress. It may be that, when viewed from a distance or an

elevated position, solar panel arrays appear to be a water body to migrating water birds during daylight hours or on nights when the moon is full.

The causes of avian injuries and fatalities at commercial-scale solar projects are being evaluated by the USFWS, CDFW, and others. Data collection and avian risk studies are currently underway at several PV solar array facilities in desert regions, including the Desert Sunlight Solar Project in Riverside County (Desert Sunlight). Standardized monitoring and study results have not been completed. Uncertainty remains because: 1) the mortality data has been collected over a relatively short period of time and still is being evaluated; 2) in most cases, the cause of death is not clear; 3) mortality information from one project location is not necessarily indicative of the mortality that might be found at another project location, and 4) avian surveys are time consuming and does not necessarily account for all affected birds. The primary study on bird strikes at solar facilities (McCrary et al., 1986) concluded that siting was an important consideration in reducing avian impacts; and that caution should be taken when siting solar facilities near open water or agricultural fields, or near population of rare, threatened, or endangered birds.

While data collection at some PV solar array-type facilities has documented individual instances of avian mortality resulting from collisions, the best available scientific information to date does not suggest a significant increased risk of avian mortality occurring at facilities such as the Project. Currently available data indicates relatively low mortality due to direct impacts with the types of facilities included in the Project, particularly PV panels. For example, at Desert Sunlight, current data suggests that avian mortality was associated with direct contact with panels, and non-panel facilities that are not unique to solar facilities such as fences, project buildings, transmission lines, and unknown or possible background causes (Kagen et al., 2014). Hence, it is likely that a low level of avian impacts can be anticipated at the proposed facility, whether from PV panels, fences, buildings, or other infrastructure associated with the Project.

The potential for a significant impact to result from avian collisions at the Project site is unlikely, and collision risk is not expected to adversely affect avian populations. The factors that have been empirically demonstrated to result in elevated collision risk at various types of facilities and structures are not present at the Project site. Instead, the Project includes mostly low-height PV arrays with only a few structures exceeding the height of PV panels, and the Project would incorporate minimal lighting and adhere to best management practices in an effort to avoid attracting avian species. The Project is also proposed in an area that does not experience inclement weather patterns that, when combined with certain types of lighting regimes, are theorized to confuse or disorient avian species. Thus, while some individual collisions between birds and Project facilities and equipment can be expected, the risk of significant impact to avian populations is minimal and therefore less than significant.

The anticipated low level of avian mortality associated with the construction and operation of the Project is expected to result in a less than significant impact to avian species. Based on available information, significant impacts to migratory birds are not expected, and no mitigation is recommended.

Decommissioning

The Project site may be recolonized by special-status species, such as protected nesting birds, during operation, which would require the implementation of protection measures during decommissioning. If special-status species have recolonized the Project site during operations and are present on the Project site during decommissioning there would be a potential for significant impacts to these species during decommissioning.

The implementation of Mitigation Measure BIO-1 would reduce impacts from decommissioning to less-than-significant levels and inform the need to implement other measures identified in this EIR. These measures would identify potential biological constraints and provide measures designed to reduce wildlife mortality, ensure long-term project site suitability, and educate on-site personnel. Additionally, Mitigation Measures BIO-2 through BIO-8 and BIO-10 would be applied if needed, to mitigate potentially significant impacts to BUOW, Swainson's hawk and other raptors, desert tortoise, American badger, desert kit fox, and other wildlife and plant species that may be encountered during the decommissioning period, to less-than-significant levels.

Mitigation Measures

Mitigation Measures BIO-1 through BIO-8 and BIO-10 would reduce adverse effects associated Impact BIO-1 (see *Section 3.4.8*).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures BIO-1 through BIO-8 and BIO-10.

Impact BIO-2: The Project could have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS. This impact would be *less than significant.*

The desert riparian woodland wash is considered potential jurisdictional State waters, and therefore a sensitive vegetation community. A total of 182.6 acres of disturbed and undisturbed desert riparian woodland wash community occurs within the solar facility site and approximately 22.9 acres of desert riparian woodland wash are within the proposed Project gen-tie line 500-foot survey buffer (250 feet on either side of the centerline). In accordance with BMP-11, with the exception of Pole 43 describe below, Project facilities would be sited to ensure that there is adequate space (i.e., setbacks of no less than 100 feet) between solar facilities and natural washes therefore avoiding impacts to the desert riparian woodland wash community.

Construction of the gen-tie line would result in one pole (Pole 43) being installed within the desert riparian woodland wash community (see **Figure 3.4-1** for location of Pole 43). Ground-disturbing activities associated with gen-tie line construction would include clearing and grading for tower pad preparation, tower removal sites, and pulling and tensioning sites; and construction, grading, and widening of new spur roads and existing access roads. Construction of Pole 43 would require a temporary disturbance area of 100 feet by 100 feet (0.023 acre) and a permanent 10-foot by 10-foot disturbance area (0.002 acre) would be required for the pole foundation. In addition, a temporary access road, approximately 1,800 feet long and 20 feet wide (0.826 acre),

would bisect the desert riparian woodland wash community and would be required to access the Pole 43 location. This would result in a maximum of 0.849 acre of temporary disturbance and 0.002 acre of permanent disturbance to the desert riparian woodland wash community. This represents 0.4 percent of the total desert riparian woodland wash acres within the solar facility and gen-tie line areas. Further, impacts in these areas would be minimized through implementation of BMP-13, which includes brush-beating, mowing, or use of protective surface matting rather than removing vegetation and restoration of exposed soils to their original contour and vegetation. Because of the relatively small area of disturbance to the desert riparian woodland wash community and the proposed practices described under BMP-13, impacts to this sensitive vegetation community would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact BIO-3: The Project could have a substantial adverse effect on federal protected wetlands, as defined by Section 404 of the CWA, or State-protected jurisdictional areas not subject to regulation under Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means. This impact would be *less than significant with mitigation incorporated.*

There are several washes terminating in or passing through the Project area. The largest of these washes is the McCoy Wash, a tributary of the Colorado River that drains 210 square miles of surface water from the Big Maria Mountains, Little Maria Mountains, and McCoy Mountains, flowing northwest to southeast across the Project area (AECOM 2009, EDAW AECOM 2009). McCoy Wash and several of the other washes entering the Project area are also recognized by the National Wetlands Inventory (NWI) as category R4SBA, indicating that the "streambed includes the bed of a stream channel that is occupied by water intermittently during periods of abundant water availability and is often temporarily flooded" (NWI 2011). Field reconnaissance surveys, analyses of National Wetlands Inventory and watershed data have determined the presence of one drainage that qualifies as a jurisdictional water of the U.S. within the gen-tie corridor.

In accordance with BMP-11, with the exception of Pole 43 described below (also see Impact BIO-2), Project facilities would be sited to ensure that there is adequate space (i.e., setbacks of no less than 100 feet) between Project facilities and natural washes. These setbacks would preserve and maintain the natural washes' hydrological functions. Construction of Pole 43 would result in a maximum of 0.849 acre of temporary disturbance and 0.002 acre of permanent disturbance to an existing ephemeral stream, which is tributary to the Colorado River, a Traditional Navigable Water of the United States. Construction of Pole 43 therefore requires authorization under the Clean Water Act and is expected to be eligible for authorization under a USACE Nationwide Permit 12, for Utility Line Construction. Potential impacts to this ephemeral stream include ground-disturbing activities associated with gen-tie line construction, such as grading, fill and the installation of a permanent structure (Pole 43). While potential construction- and operation-related impacts from the Project would be minimized through implementation of

BMPs, impacts before implementation of mitigation measures would be potentially significant. These potential impacts would be reduced to a less than significant level through implementation of Mitigation Measure BIO-9 and Hydrology and Water Quality Mitigation Measures HYD-1 through HYD-4. Mitigation Measure BIO-9 requires avoidance of jurisdictional areas and mitigation in accordance with requisite permitting for unavoidable impacts. HYD-1 through HYD-3 requires design standards to minimize impacts to hydrologic functions, such as utilizing existing drainage crossings, constructing new roads at right angles to streams and washes, and minimizing and controlling stormwater runoff. HYD-4 requires restoration of temporary work areas after the completion of Project construction. The same BMPs and mitigation measures would be applied to decommissioning activities.

Mitigation Measures

Mitigation Measures BIO-9 and HYD-1 through HYD-4 would reduce adverse indirect effects associated with Impact BIO-3 (see *Section 3.4.8 and Section 3.9.8*).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures BIO-9 and HYD-1 through HYD-4.

Impact BIO-4: The Project would 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. ***This impact would be less than significant.***

There are no perennial water features on the solar facility site and no corridors for aquatic species movement. In addition, no wildlife nursery sites have been identified on or in the vicinity of the solar facility site. Similarly, the Project site is not located within a known wildlife migration corridor or linkage connecting large open space areas. The immediate Project area and surrounding region contains large expanses of open habitat that provide ample amounts of area for local and regional wildlife movement. Moreover, the greater western Sonoran Desert is surrounded by open space areas where local wildlife movement occurs. Therefore, implementation of the Project, including its fencing, would not substantially restrict wildlife movement. Permanent motion sensitive, directional security lights would be installed to provide adequate illumination around Project infrastructure and points of ingress/egress. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. Therefore, Project lighting is not expected to adversely impact wildlife movement in adjacent habitat next to the Project area. Impacts involving movement corridors or wildlife nursery sites would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

This impact would be less than significant.

Impact BIO-5: The Project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. This impact would be *less than significant with mitigation incorporated*.

The PVMSP does not conflict with any local policies or ordinances protecting biological resources. The Riverside County General Plan includes policies that address biological resources within the County boundaries. The City of Blythe General Plan likewise encourages preservation of biological resources in its Open Space Element. The NECO Plan protects and conserves the natural resources of the California portion of the Sonoran Desert while also managing its use for humans. The Project would impact resources protected by the General Plan provisions and NECO Plan. Wildlife species may experience a temporary impact during the construction phase and increased human use; however, species that may potentially move through the site are acclimated to the existing human use in the Project area. The Project would result in impacts to biological resources that, unless mitigated, would be significant. As discussed, implementation of Mitigation Measures BIO-1 through -10 would reduce these impacts to a less than significant level by assuring consistency with local plans.

Mitigation Measures

Implementation of Mitigation Measures BIO-1 through BIO-10 would reduce adverse effects associated with Impact BIO-5 (see *Section 3.4.8*).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures BIO-1 through BIO-10.

Impact BIO-6: The Project could substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare, or threatened species. This impact would be *less than significant with mitigation incorporated.*

As explained above in connection with Impacts BIO-1 through BIO-4, the Project is subject to numerous BMPs that would avoid impacts, including BMP-11, which would ensure that the Project avoids the wash areas to the greatest extent feasible. The remaining impacts would be reduced to less than significant levels with Mitigation Measures BIO-1 through BIO-9.

Over 90 percent of the solar facility site that would be directly impacted by PVMSP (approximately 2,380 acres) consists of non-sensitive agricultural land (see Table 3.4-1). With the exception of a total maximum of 0.849 acre of temporary disturbance and 0.002 acre of permanent disturbance to the Desert Riparian Woodland Wash community associated with Pole 43 (see Impact BIO-2), portions of the site that support riparian habitat or other sensitive natural communities would be avoided by Project design (see BMP-11). As a result of existing agricultural operations, construction activities are expected to result in minimal harassment of sensitive species or displacement of common wildlife species.

In natural areas such as the creosote bush scrub communities (approximately 397 acres), access to the construction sites or installation of the solar facility and gen-tie towers may result in mortality

primarily to burrow-dwelling animals, eggs and nestlings of bird species with small, well-hidden nests, and species with slower or constrained mobility (e.g., snakes, lizards, and amphibians). Approximately 310 acres of creosote bush scrub communities were identified on the proposed gen-tie corridor; however, only a small portion of this area would be affected by the facility footprint. More mobile species, like birds and larger mammals, are likely to relocate and utilize an adjacent habitat area if they are present during the solar facility installation and the clearing and grading phase associated with tower construction. The less mobile and smaller wildlife species could be potentially impacted by construction equipment, whereas other wildlife, such as birds and large mammals like the American badger, may be temporarily displaced from the immediate construction areas.

The PVMSP site is currently used mostly for agriculture, and the proposed gen-tie line would parallel numerous transmission line corridors and associated access roads. Based on the less than significant impacts on important habitat such as riparian woodlands (see Impact BIO-2) and the majority of impacts on active agricultural lands, the proposed Project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of an endangered, rare, or threatened species. The proposed Project is not expected to restrict or reduce the number of species other than in the manner described above for impacts BIO-1 through BIO-6. As part of the Project, BMP-10 (Integrated Weed Management Plan), BMP-13 (Ground and Surface Disturbance) and BMP-19 (Plants and Wildlife) would help minimize the potential direct and indirect impacts to wildlife species during construction of the proposed gen-tie line and solar array facility. However, as explained in the discussions of impacts BIO-1 through BIO-5 above, impacts before implementation of mitigation measures would be significant. Implementation of Mitigation Measures BIO-1 through BIO-9 would reduce impacts to less than significant.

Mitigation Measures

Implementation of Mitigation Measures BIO-1- through BIO-10 would reduce adverse effects associated Impact BIO-6 (see *Section 3.8*).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures BIO-1 through BIO-10.

3.4.7 Cumulative Impacts

The geographic context for this cumulative analysis consists of that portion eastern Riverside County that consists of similar habitat areas as those that would be directly or indirectly affected by the Project. Cumulative effects for biological resources apply to both plant and wildlife species and must take into account known distribution, availability of preferred habitat, designated critical habitat, local population size, and likely responses to effects for each species that is considered. The geographic context for this analysis encompasses the home ranges of species that would be impacted by the Project. While migratory birds and raptors that may be impacted by the Project make long-distance movements between wintering and breeding locales, the area used by these species once upon arrival to the Project Area would be limited to within the

geographic scope assumed by this analysis. From a timing perspective, the Project could cause or contribute to cumulative effects to Biological Resources starting with the initiation of on-site activities and continuing into the future for so long as Project infrastructure remains a part of the landscape. As the number of solar projects and urbanization pressures increase within the region, the intensity of cumulative impacts to biological resources within the region is increasing. When the direct and indirect impacts of the proposed Project are considered with the ongoing impacts of past projects (which are reflected in the environmental conditions described in Section 3.4.1, Environmental Setting) and anticipated impacts of other present and reasonably foreseeable probable future projects in the geographic scope for biological resource impacts, over 72,000 acres of solar projects and 159 miles of transmission lines would contribute to the cumulative impacts to biological resources.

Wildlife Habitat / Vegetation Communities

If construction of all of the projects identified in Table 3-1 was to occur at the same time, the area would be introduced to additional construction activities, equipment, and human disturbance from these projects and sites. Related construction impacts would include presence of heavy equipment, dust, fencing, materials, and supplies in the region. However, following construction, the construction equipment and associated supplies would be removed, and impacts would be temporary. General threats to species and their habitats in the cumulative effects study area include fragmentation of habitat from roads, urban development, and agricultural development. Construction activity also may result in dust deposition on vegetation, which may result in decreased photosynthetic capabilities that would, in turn, cause habitat degradation through loss of plant vigor. Plants in particular could be trampled or crushed, killed, removed from the site, or otherwise indirectly affected by habitat degradation including fugitive dust, non-native weed species, and soil compaction. Given the sheer scale of potential development, related cumulative impacts would be considered significant.

When considered in the context of ongoing impacts of past projects and the cumulative scenario described above, the effects of the proposed Project would contribute incrementally to the cumulative impacts on wildlife habitat and vegetation communities. However, the Project's incremental impact to wildlife habitat and vegetation communities would not be cumulatively considerable because, unlike most of the solar projects on the cumulative project list, the PVMSP is not proposed primarily on open space. For example, natural (non-ruderal, non-agriculture) vegetation communities within the PVMSP constitute approximately 776.3 acres, or 19.3 percent of the total Project area. In comparison, the amount of natural vegetation within the Blythe Solar Power Project study area is 7,601.93 acres (99.8 percent of total) (AECOM 2010), within the McCoy Solar Energy Project is 4,506.9 acres (99.2 percent of total) (Riverside County 2013), and within the Genesis Solar Energy Project's solar power plant site and linear facilities is 1,852 acres (100 percent of total) (BLM and CEC 2010). In addition, the PVMSP proposes to construct a double-circuit 230 kV overhead gen-tie line to the approved Colorado River Substation. Only one circuit of the double-circuit tubular steel poles would be strung, leaving the other circuit vacant. This vacant circuit position could be utilized by other utility-scale solar energy production facilities under the cumulative scenario; as such, cumulative impacts to biological resources through land disturbance would be minimized by placing new infrastructure from other projects on existing poles within an established ROW corridor. Further, the residual impacts that would

remain after the implementation of mitigation measures recommended for the Project would be relatively minor, and would not make a material difference to the scope, nature or extent of the cumulative impact.

Western Burrowing Owl

BUOW were observed in portions of the proposed solar site in 2013, though nesting was not observed on-site (POWER, 2013a). This species was also documented within the PVMSP gen-tie corridor (POWER, 2013a) (see Appendix D of this EIR). Impacts to BUOW include habitat loss and/or degradation and possible injury or mortality if they happen to be present in a designated work area, particularly during nesting season. If present in undetected burrows, species such as BUOW may be crushed by construction vehicles or activities.

Existing environmental conditions (which reflect the ongoing impacts of past projects) and other projects in the cumulative scenario include several transmission lines and wind and solar energy projects. The surrounding projects (Table 3-1) as implemented would likely result in cumulative impacts to the BUOW. For example, the Genesis Solar Energy Project is expected to result in, among other impacts, loss or degradation of owl habitat, failure or disturbance of nesting efforts, relocation to new locations and/or artificial burrows, and increased predation; this project would purchase 39 acres of suitable habitat for burrowing owls as mitigation if necessary. The McCoy Solar Energy Project, which is nearly adjacent to the PVMSP, has also documented BUOW on site and would result in relocation of the owls and destruction of their nests. If BUOW were detected during pre-construction surveys, the Project would conserve suitable BUOW habitat on private land as mitigation as a requirement by CEQA and the CDFW Burrowing Owl Mitigation requirements (CDFW, 2012). The Devers-Palo Verde 2 Transmission Line Project was expected to result in displacement, disturbance, and potential crushing of BUOW. Any direct or indirect mortality related to all of these projects or others could result in reduced size of local or regional populations depending on project locations. The Project's incremental contribution to this potential significant cumulative effect would not be cumulatively considerable because, following the identification and set aside of suitable alternative BUOW habitat, the incremental residual impact of the Project would not result in the loss of sustainable populations of this species and would not materially affect the nature, scope or extent of the cumulative impact.

Avian Impacts

Migratory birds are expected to occur throughout the study area during construction, operation, and maintenance of the PVMSP. Areas cleared for solar fields are expected to have less activity over time than those that remain relatively vegetated (e.g., the gen-tie line corridor). Construction of the proposed Project or any of the cumulative projects could potentially result in habitat loss and degradation, displacement, disruption or failure of nesting efforts, decreased foraging activities, increased predation, or mortality of migratory birds. For example the proposed gen-tie line (like existing and other proposed or reasonably foreseeable future power lines) has the potential to result in avian collisions or electrocutions and construction of the solar arrays (like existing and other proposed development projects) would clear areas for construction that may contain habitat. The Project would create the impacts noted above, but would mitigate its impacts to biological resources to less than significant levels. There are several transmission line, wind, or

solar energy projects within the PVMSP vicinity. The surrounding projects (Table 3-1) as implemented would presumably be considered cumulatively significant to migratory birds. The Devers-Palo Verde 2 Transmission Line Project is expected to have the potential to affect and displace raptors and BUOW, as well as the nests of all migratory birds. The Blythe Solar Power Project proposed removal Sonoran creosote bush scrub and desert dry wash scrub that could be used as foraging or nesting habitat by migratory birds, as well as to disturb or cause to fail nesting efforts, increase predation and risks of mortality, and subject birds to hazardous chemicals from project-related evaporation ponds. The McCoy Solar Project may also result in nest abandonment, increased risk of mortality, loss of suitable habitat, and disturbance from night lighting during nighttime construction operations.

When added to the cumulative scenario described above, the effects of the proposed Project would contribute incrementally to the cumulative avian impacts. However, the proposed Project consists of 85.1 percent ruderal or agricultural lands and otherwise non-natural lands and 19.3 percent native habitat, while the other projects affect much more substantial areas of native habitat. (Refer to "Wildlife Habitat/Vegetation Communities" above for a vegetation comparison with nearby solar projects.) Therefore, the residual impacts of the Project that remain after mitigation measures are incorporated would be minor and would not materially affect the nature, scope or extent of any significant cumulative impact. For this reason, the Project's incremental contribution to cumulative effects would not be cumulatively considerable.

Golden Eagle

Based on the terrain, vegetation, and habitat characteristics within the study area and available data on known locations, golden eagles are not expected to nest within the solar facility site or the gen-tie line corridor, but they have a moderate foraging potential. Effects from the PVMSP would be reduced to less than significant levels with the implementation of recommended mitigation measures and proposed BMPs.

Cumulative effects may occur to this species with the combined influence of existing projects, the projects listed in Table 3-1, and numerous parcels of land for which BLM and the County has received applications to build wind and solar generation facilities. During surveys conducted for the McCoy Solar Energy Project (TetraTech, 2011), four golden eagle nests were detected in 2010 and 15 were detected in 2011 in the McCoy, Little Maria, and Big Maria Mountains. Of those nests, only one was determined to be active, in 2010, and was not determined to be active with golden eagles during the 2011 surveys. Several nests in 2011 were observed to be occupied by other species. Of all golden eagle nests detected in 2010 and 2011 during McCoy Solar Energy Project surveys, the closest nest was approximately 4.5 miles north of the proposed gen-tie line or approximately 5 miles north of the Colorado River Substation. However, there are no nests or nesting habitat for this species within the study area. The cumulative effect of all these projects is expected to be less than significant given that the study area is expected to experience limited use by eagles given the locations of known nesting sites.

Mojave Fringe-toed Lizard

This non-listed special-status species is known to occur along the gen-tie line corridors of the PVMSP. Cumulative effects are expected for this species from the combined influence of the

projects listed in Table 3-1. Because these projects will require ground to be cleared, there is potentially a large amount of habitat to be removed or degraded by construction of the various projects. Loss of individuals or habitat in these areas would exert a cumulative effect on Mojave fringe-toed lizard by reducing the local population size or removing suitable habitat. Long-term predation vulnerability may occur due to vegetation loss, which decreases dispersal and refuge opportunities from predators. In addition, increased perching opportunities resulting from construction of the all associated transmission lines also increases this species' predation vulnerability. The intensity of the cumulative effect is increased due to the fact that these projects will be ongoing for several years, lost or disturbed habitat is likely to take years to recover, and unless designed with successful perch discouragers, transmission lines would provide permanent perching opportunities. Accordingly, the cumulative effect from all these projects combined is potentially significant.

When added to the cumulative scenario described above, the effects of the proposed Project would contribute incrementally to the cumulative impacts to Mojave fringe-toed lizard. The contribution would not be cumulatively considerable though, because it would not materially affect the scope, nature or extent of the cumulative impact.

Le Conte's Thrasher

Le Conte's thrasher was detected within the proposed transmission line corridor during focused plant surveys and is expected to be present or have a high likelihood of occurring within the Project study area. Following the implementation of recommended mitigation measures, the PVMSP is expected to have a less than significant impact on this species related to habitat loss, disruption of breeding activity, and/or destruction of nests. Because this species is a resident and does not migrate, it could be present at any time of year. The proposed gen-tie line could result in increased risk of collision if birds fly high enough to come into contact with the conductors.

Several transmission lines and wind and solar energy projects exist, are proposed, or are reasonably foreseeable within the geographic scope and, like the Project, would contribute to cumulative impacts to the Le Conte's thrasher. The Devers-Palo Verde 2 Transmission Line Project estimated permanent loss of 44 acres of Le Conte's thrasher habitat and a temporary loss of 5 acres of suitable habitat from the construction of its Midpoint Substation, as well as loss of habitat due to a number of other project alternatives. While this species was not detected on the Blythe Solar Power Project area, this project estimated 730 acres of suitable Le Conte's thrasher habitat within its disturbance area. The most prominent cumulative impact to this species appears to be habitat loss, which would occur if the projects identified in Table 3-1 were implemented. Refer to "Wildlife Habitat/Vegetation Communities" above for a vegetation comparison with nearby solar projects. While it was not determined to be present in all aforementioned projects, this bird can also be difficult to detect and locate and could nevertheless be present at these sites. Loss of habitat at all of the above projects may have a greater impact if Le Conte's thrashers are in fact present in the area. Accordingly, the cumulative effect from all these projects combined would be considered significant.

The proposed Project would contribute incrementally to the cumulative impacts to Le Conte's thrasher; however, the incremental contribution of the PVMSP would not be cumulatively

considerable because the residual impacts that remain after mitigation would be minor and would not materially affect the scope, nature or extent, of the cumulative impact.

Loggerhead Shrike

Loggerhead shrike was detected within the gen-tie corridor and is expected to be present or have a high likelihood of occurring. Effects to this species would be largely the same as to the Le Conte's thrasher. The PVMSP would result in habitat loss, and Project construction and activity could result in disrupting breeding activity or destroying a nest. Because this species is a resident and does not migrate, it could be present at any time of year. The proposed gen-tie line could result in increased risk of collision if birds fly high enough to come into contact with the conductors.

There are several existing, proposed, and reasonably foreseeable future transmission lines and wind and solar energy projects within the geographic scope. The cumulative projects (Table 3-1) as implemented would presumably result in cumulative impacts to loggerhead shrike. For example, the Devers-Palo Verde 2 Transmission Line Project estimated permanent loss of 44 acres of Le Conte's thrasher habitat and a temporary loss of 5 acres of suitable habitat from the construction of its Midpoint Substation, as well as loss of habitat due to a number of other project alternatives. The Blythe Solar Power Project detected 32 loggerhead shrikes during point count surveys, as well as fledglings on several other occasions and several shrike nests. This project estimated its entire project area (7,077 acres) as suitable loggerhead shrike habitat. The most prominent cumulative impact to this species appears to be habitat loss, which would occur if projects in the cumulative scenario were to be implemented. Refer to "Wildlife Habitat/Vegetation Communities" above for a vegetation comparison with nearby solar projects. The cumulative impact of these projects and the PVMSP would result in a large amount of habitat loss for the loggerhead shrike. Accordingly, the cumulative effect from all these projects combined would be considered potentially significant.

However, the incremental effects of the proposed Project would not be cumulatively considerable because they would not materially affect the scope, nature, or extent of the cumulative impacts to loggerhead shrike.

American Badger and Desert Kit Fox

Neither American badger nor kit fox were detected in the study area, but potential badger and kit fox burrows and dens were found during surveys. If these species are present within these burrows, there is the potential that they could be crushed within burrows, or within undetected burrows, during construction. In addition, they may be temporarily or permanently displaced from the study area due to construction activity. Other Project-related effects that may occur to these two species include habitat loss and degradation, habitat fragmentation, and increased dust and non-native plant dispersal. In addition, the Project has the potential to result in instances of canine distemper among local kit foxes, which was first discovered in the region in 2011 among kit foxes affected by the Genesis Solar Energy Project.

There are several existing, proposed, and reasonably foreseeable future transmission lines and wind and solar energy projects within the geographic scope. The cumulative projects (Table 3-1)

as implemented would likely result in significant cumulative impacts to American badgers and kit foxes. Most of the surrounding projects are expected to result in the same type of impacts as proposed by the Project but to a much greater degree. Both species were expected to occur on the Genesis Solar Energy project, with risk of entombing the animals inside burrows during construction. Over 65 kit fox burrow complexes were located at this project, and in 2011 and 2012 it was discovered that at least eight kit foxes had died of distemper at this Project area following passive relocation (i.e., destruction of burrows while unoccupied). The Genesis Solar Energy project initially projected the permanent loss of approximately 1,850 acres of suitable habitat for these two species, degradation of remaining habitat in the project area, disturbance, and increased risk of road kill. While kit foxes were not analyzed for impacts on the Devers-Palo Verde 2 Transmission Line Project, American badger was expected to have a potential to occur, with project-related habitat loss, burrow destruction, and potential crushing while inside burrows, at that project site. The McCoy Solar Energy Project, which is very close to the PVMSP, identified the same effects to these two species, also pointing out increased risk of road kill or injury. Finally, the Blythe Solar Power Project is expected to have both American badgers and desert kit foxes, with a known "substantial" population of kit foxes within the project area. This project expected a permanent loss of 7,077 acres of occupied kit fox and badger habitat, with fragmentation and degradation of remaining habitat and increased risk of mortality through burrows collapsing or by road kill.

The habitat loss and burrow destruction that would result from implementation of the cumulative projects could reduce the local population, especially if the distemper that spread through the Genesis Solar Energy Project area in 2012 continues to spread into surrounding areas. Accordingly, the cumulative effect from the cumulative projects combined is expected to be significant.

When added to the cumulative scenario described above, the effects of the proposed Project would contribute incrementally to the cumulative impacts to American badgers and kit foxes. The impacts of the PVMSP would not be cumulatively considerable, however, because they would not materially affect the scope, nature, or extent of the cumulative impact.

Desert Tortoise

The desert tortoise habitat that would be affected by the proposed Project is of limited quality and extent. However, it is possible this species may be encountered during construction of the proposed Project given that higher quality habitat and known occurrence have been documented in the vicinity of the proposed Project. The potential effects to desert tortoise associated with the proposed Project are of sufficient quality and quantity to potentially adversely affect the species

There are several existing, proposed, or reasonably foreseeable transmission lines and wind or solar energy projects within the geographic scope, the combined effects of which would likely result in significant cumulative impacts to desert tortoise.

When added to the cumulative scenario described above, the effects of the proposed Project would contribute incrementally to the cumulative impacts to desert tortoise. However, the incremental contribution would not be cumulatively considerable because the majority of the

impacted area (i.e., agricultural fields) does not present suitable habitat for this species, and use of the Study Area by the species is expected to be low relative to areas north and west of the site.

3.4.8 Mitigation Measures

BIO-1 The Lead Biologist shall monitor the work area bi-weekly during ground disturbing construction activities. The Lead Biologist shall conduct monitoring for any area subject to disturbance from construction activities that may impact biological resources. The Lead Biologist's duties include minimizing impacts to special-status species, native vegetation, wildlife habitat, and unique resources. Where appropriate, the inspector will flag the boundaries of biologically sensitive areas and monitor any construction activities in these areas to ensure that ground disturbance activities and impacts occur within designated limits. The Lead Biologist will also be responsible for ensuring the BMPs shall be employed to prevent loss of habitat caused by Project-related impacts (e.g., grading or clearing for new roads) within the gen-tie line corridor. The resume of the proposed Lead Biologist will be provided to the County (as appropriate) for concurrence prior to onset of ground-disturbing activities. The Lead Biologist will have demonstrated expertise with the biological resources within the Project area.

BIO-2 Pre-construction surveys shall be conducted for State and federally listed Threatened and Endangered, Proposed, Petitioned, and Candidate plants in a 250-foot radius around all areas subject to ground-disturbing activity including, but not limited to, tower pad preparation and construction areas, solar facilities, pulling and tensioning sites, assembly yards, and areas subject to grading for new access roads. The surveys shall be conducted during the appropriate blooming period(s) by an authorized plant ecologist/biologist according to protocols established by the USFWS, CDFW, BLM, and California Native Plant Society (CNPS). Measures shall be taken to avoid and minimize impacts to special-status plant species that are found to be present during the preconstruction surveys. This includes avoiding unnecessary or unauthorized trespass by workers and equipment, staging and storage of equipment and materials, refueling activities, and littering or dumping debris in areas known to contain special-status plant species that are not within the designated construction footprint.

BIO-3 In areas identified as suitable habitat during the 2011 and 2012 surveys, biological monitors shall conduct pre-construction surveys for American badger no more than 30 days prior to initiation of construction activities. Surveys shall also consider the potential presence of dens within 100 feet of the Project boundary (including utility corridors and access roads) and shall be performed for each phase of construction. If dens are detected each den shall then be further classified as inactive, potentially active, or definitely active. Inactive dens that would be directly impacted by construction activities shall be excavated by hand and backfilled to prevent reuse by badgers. Potential dens that would be directly impacted by construction activities shall be monitored by the Biological Monitor for three consecutive nights using a tracking medium such as diatomaceous medium or fire clay and/or infrared camera

stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den shall be excavated and backfilled by hand. If tracks are observed, the badger dens shall be fitted with the one-way trap doors to encourage badgers to move off-site. After 48 hours post-installation, the den shall be excavated and collapsed, following the same protocol as with western burrowing owl burrows. These dens shall be collapsed prior to construction of the desert tortoise fence, to allow badgers the opportunity to move off-site without impediment. If an active natal den is detected on the site, the CDFW shall be contacted within 24 hours. The course of action would depend on the age of the pups, location of the den site, status of the perimeter site fence, and the pending construction activities proposed near the den. A 500-foot no disturbance buffer shall be maintained around all active dens. Alternatively, a designated biologist authorized by CDFW, shall trap and remove badgers from occupied dens and move them off-site into appropriate habitat.

BIO-4 In areas identified as suitable habitat during the 2011 and 2012 surveys, biological monitors shall conduct pre-construction surveys for kit fox no more than 30 days prior to initiation of construction activities. Surveys shall also consider the potential presence of dens within 100 feet of the Project boundary (including utility corridors and access roads) and shall be performed for each phase of construction. If dens are detected each den shall then be further classified as inactive, potentially active, or definitely active. Inactive dens that would be directly impacted by construction activities shall be excavated by hand and backfilled to prevent reuse by kit fox. Potential dens that would be directly impacted by construction activities shall be monitored by the Biological Monitor for three consecutive nights using a tracking medium such as diatomaceous medium or fire clay and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den shall be excavated and backfilled by hand. If tracks are observed, the kit fox dens shall be fitted with the one-way trap doors to encourage kit fox to move off-site. After 48 hours post-installation, the den shall be excavated and collapsed, following the same protocol as with inactive western burrowing owl burrows. These dens shall be collapsed prior to construction of the desert tortoise fence, to allow kit fox the opportunity to move off-site without impediment. If an active natal den is detected on the site, the CDFW shall be contacted within 24 hours. The course of action would depend on the age of the pups, location of the den site, status of the perimeter site fence, and the pending construction activities proposed near the den. A 500-foot no disturbance buffer shall be maintained around all active dens. Habitat-based mitigation or other appropriate mitigation as discussed previously for desert tortoise and western burrowing owl shall provide mitigation for impacts to non-listed special-status species that inhabit overlapping suitable habitat. The following measures are required to reduce the likelihood of distemper transmission:

- No pets shall be allowed on the site prior to or during construction;

- Any kit fox hazing activities that include the use of animal repellents such as coyote urine must be cleared through the CDFW prior to use; and
- Any documented kit fox mortality shall be reported to the CDFW within 24 hours of identification. If a dead kit fox is observed, it shall be retained and protected from scavengers until the CDFW determines if the collection of necropsy samples is justified.

BIO-5 Desert Tortoise Protection

(1) **Qualified Biologist:** In the following measures, a "qualified biologist" is defined as a person with appropriate education, training, and experience to conduct tortoise surveys, monitor project activities, provide worker education programs, and supervise or perform other implementing actions. The person must demonstrate an acceptable knowledge of tortoise biology, desert tortoise impact minimization techniques, habitat requirements, sign identification techniques, and survey procedures. Evidence of such knowledge may include work as a compliance monitor on a project in desert tortoise habitat, work on desert tortoise trend plot or transect surveys, conducting surveys for desert tortoise, or other research or field work on desert tortoise. Attendance at a training course endorsed by the agencies (e.g., Desert Tortoise Council tortoise training workshop) is a supporting qualification. All qualified biologists must be approved by the USFWS and the Riverside Environmental Programs Department (EPD) prior to starting any work on site.

A qualified biologist will be on-site during all construction. The qualified biologist shall conduct a pre-construction clearance survey of the Project area, watch for tortoises wandering into the construction areas, check under vehicles, and examine excavations and other potential pitfalls for entrapped animals. The qualified biologist will be responsible for overseeing compliance with desert tortoise protective measures and for coordination with the Field Contact Representative (FCR) (described below). The qualified biologist shall have the authority to halt all Project activities that are in violation of these measures or that may result in the take of a tortoise. The qualified biologist shall have a copy of the previously issued informal consultation letter issued for the Blythe Solar Project (FWS-ERIV-12B0299-12I0497) for construction of the shared gen-tie line when work is being conducted on the site. The qualified biologist is not authorized to handle or relocate desert tortoises as part of this project.

(2) **Preconstruction Clearance Survey:** The qualified biologist shall conduct a preconstruction clearance survey of the Project area. Transects for clearance surveys will be spaced 15 feet apart. Clearance will be considered complete after two successive surveys have been conducted without finding any desert tortoises. Clearance surveys must be conducted during the active season for desert tortoises (April through May or September through October). The qualified biologist is not authorized to handle or relocate desert tortoises a part

of this project. If a tortoise or tortoise burrow is located during clearance surveys, the USFWS will be contacted for direction on how to proceed.

(3) **Field Contact Representative:** The Project Applicant will designate a FCR who will be responsible for overseeing compliance with desert tortoise protective measures and for coordination with the USFWS. The FCR will have the authority to halt all Project activities that are not in compliance with the measures in the previously issued informal consultation letter (FWS-ERIV-12B0299-12I0497). The FCR will have a copy of this letter when work is being conducted on the site. The FCR may be an agent for the company, the site manager, any other Project employee, a biological monitor, or other contracted biologist. The FCR nor any other project proponent may bar or limit any communications between any Natural Resource Agency or The County of Riverside Environmental Programs Division and any project biologist, biological monitor or contracted biologist. Any incident occurring during the Project activities that is considered by the qualified biologist to be in non-compliance with these measures will be documented immediately by the qualified biologist. The FCR will ensure that appropriate corrective action is taken. Corrective actions will be documented by the qualified biologist. The following incidents will require immediate cessation of the Project activities causing the incident: (1) location of a desert tortoise within the exclusion fencing; (2) imminent threat of injury or death to a desert tortoise; (3) unauthorized handling of a desert tortoise, regardless of intent; (4) operation of construction equipment or vehicles outside a project area cleared of desert tortoise, except on designated roads; and (5) conducting any construction activity without a biological monitor where one is required.

(4) **Worker Training:** Prior to the onset of construction activities, a desert tortoise education program will be presented by the FCR or qualified biologist to all personnel who will be present on work areas within the Project area. Following the onset of construction, any new employee will be required to formally complete the tortoise education program prior to working on-site. At a minimum, the tortoise education program will cover the following topics:

- A detailed description of the desert tortoise, including color photographs;
- The distribution and general behavior of the desert tortoise;
- Sensitivity of the species to human activities;
- The protection the desert tortoise receives under the Act, including prohibitions and penalties incurred for violation of the Act;
- The protective measures being implemented to conserve the desert tortoise during construction activities; and
- Procedures and a point of contact if a desert tortoise is observed on-site.

(5) **Site Fencing:** Desert tortoise exclusion fencing will be installed around the Project area. The fence will adhere to USFWS design guidelines, available at: http://www.fws.gov/venturaispecies _information/protocols guidelines/docs/dtlDT_ Exclusion-Fence_2005.pdf. The qualified biologist will conduct a clearance survey before the tortoise fence is enclosed to ensure no tortoises are on the Project area. If a tortoise is found, all construction activity will halt and the USFWS contacted for direction on how to proceed. Once installed, exclusion fencing will be inspected at least monthly and following all rain events, and corrective action taken if needed to maintain the integrity of the tortoise barrier. Fencing around the Project area will include a desert tortoise exclusion gate. This gate will remain closed at all times, except when vehicles are entering or leaving the Project area. If it is deemed necessary to leave the gate open for extended periods of time (e.g., during high traffic periods), the gate may be left open as long as a qualified biologist is present to monitor for tortoise activity in the vicinity. Sites with potential hazards to desert tortoise (e.g., auger holes, steep-sided depressions) that are outside of the desert tortoise exclusion fencing will be fenced by installing exclusionary fencing, or not left unfilled overnight.

(6) **Refuse Disposal:** All trash and food items shall be promptly contained within closed, raven-proof containers. These will be regularly removed from the Project area to reduce the attractiveness of the area to common ravens and other desert predators. The FCR will be responsible for ensuring that trash is removed regularly from the site such that containers do not overflow, and that the trash containers are kept securely closed when not in use.

(7) **Tortoises under vehicles:** The underneath of vehicles parked outside of desert tortoise exclusion fencing will be inspected immediately prior to the vehicle being moved. If a tortoise is found beneath a vehicle, the vehicle will not be moved until the desert tortoise leaves of its own accord. (8) Tortoises on roads: If a tortoise is observed on or near the road accessing the Project area, vehicular traffic will stop and the tortoise will be allowed to move off the road on its own.

(8) **Tortoise Observations:** No handling of desert tortoise or burrow excavation is allowed as part of the proposed action. If a tortoise is observed outside of exclusion fencing, construction will stop and the tortoise shall be allowed to move out of the area on its own. If a tortoise or tortoise burrow is observed within the exclusion fencing, all construction will stop, and the USFWS contacted for direction on how to proceed.

The following activities are not authorized and will require immediate cessation of the construction activities causing the incident: (1) location of a desert tortoise within the exclusion fencing; (2) imminent threat of injury or death to a desert tortoise; (3) unauthorized handling of a desert tortoise,

regardless of intent; (4) operation of construction equipment or vehicles outside a project area cleared of desert tortoise, except on designated roads; and (5) conducting any construction activity without a biological monitor where one is required.

(9) **Dead or Injured Specimens:** Upon locating a dead or injured tortoise, the Applicant or agent is to immediately notify the Palm Springs Fish and Wildlife Office by telephone within three days of the finding. Written notification must be made within five days of the finding, both to the appropriate USFWS field office and to the USFWS' Division of Law Enforcement. The information provided must include the date and time of the finding or incident (if known), location of the carcass or injured animal, a photograph, cause of death, if known, and other pertinent information.

BIO-6 **Burrowing Owl Protection:** A Draft Burrowing Owl Monitoring and Mitigation Plan (Plan) has been developed to describe monitoring, reporting, and management of the burrowing owl during the construction, O&M, and decommissioning of the proposed Project, as required by CDFW and County of Riverside. It has been prepared following the 2012 CDFW Staff Report on Burrowing Owl Mitigation (CDFW, 2012), and describes a multi-tiered approach to prevent or reduce impacts during construction and operation of the Project. Below is a general summary of the Plan requirements:

- Pre-construction surveys will be conducted throughout the Project area and laydown areas for burrowing owls, possible burrows, and sign of owls (e.g., pellets, feathers, white wash) 30 days prior to construction;
- Should any of the pre-construction surveys yield positive results for the presence of burrowing owl or active burrows within the Project area, the approved Biologist will coordinate with the Construction Contractor to implement avoidance and set-back distances. Disturbance of owls or occupied burrows during the breeding season (February 1 through August 31) will not be permitted;
- If suitable burrows are observed and documented during the preconstruction surveys within the Project footprint and determined to be inactive, these burrows will be excavated and filled in under the supervision of the approved Biologist(s) prior to clearing and grading;
- To compensate for impacts to burrowing owls in activity areas on the northern part of the Project, 146 acres of habitat have been identified adjacent to the Project area. A letter agreeing to dedicate the existing compensation lands must be approved by CDFW and the County prior to ground disturbance. Land used for compensation must be of equal value or better than the land impacted. Ownership of compensation lands will be transferred prior to any surface disturbance to one of the following: the County, or an entity acceptable to the County or CDFW that can effectively manage listed species and their habitats.

- The Plan provides detailed methods and guidance for passive relocation of burrowing owls occurring within the Project disturbance area; and
- The Plan describes monitoring and management of the passive relocation, including a three-year monitoring program.

BIO-7 If Project construction activities cannot occur completely outside the bird breeding season, then pre-construction surveys for active nests shall be conducted by a qualified biologist within 1,200 feet of the construction zone no more than seven days before the initiation of construction that would occur between February 1 and August 15. The qualified biologist will hold a current Memorandum of Understanding with the County of Riverside to conduct nesting bird surveys. If breeding birds with active nests are found, a biological monitor shall establish a species-specific buffer around the nests for construction activities, 250 feet or 1,200 feet for raptor nests. Extent of protection will be based on proposed management activities, human activities existing at the onset of nesting initiation, species, topography, vegetative cover, and other factors. When appropriate, a no-disturbance buffer around active nest sites will be required from nest-site selection to fledging. If for any reason a bird nest must be removed during the nesting season, written documentation providing concurrence from the USFWS and CDFW authorizing the nest relocation shall be obtained. All nest removals shall occur after the nest is demonstrated to be inactive by a qualified biologist and have been shown to not result in take as defined by the Migratory Bird Treaty Act (MBTA). A Bird and Bat Conservation Strategy (BBCS) will be developed for this Project and include additional protections for avian species. The BBCS would be based on specific recommendations from the USFWS and would provide:

- a statement of the Applicant's understanding of the importance of bird and bat safety and management's commitment to remain in compliance with relevant laws;
- documentation of conservation measures PVMSP would implement through design and operations to avoid and reduce bird and bat fatalities at both solar generation facilities as well as the associated gen-tie line, including consideration of bird height and wingspan requirements and use of flight diverters, perch and nest discouraging material, etc.;
- consistent, practical and up-to-date direction to PVMSP staff on how to avoid, reduce, and monitor bird and bat fatalities;
- establishment of accepted processes to monitor and mitigate bird and bat fatalities; establishment of accepted fatality thresholds that, if surpassed, would trigger adaptive changes to management and mitigation management;
- an adaptive management framework to be applied, if thresholds are surpassed; and
- A three year post-construction monitoring study.

The BBCS would be considered a "living document" that articulates the Applicant's commitment to develop and implement a program to increase avian and bat safety and reduce risk. As progress is made through the program or challenges are encountered, the BBCS may be reviewed, modified, and updated. The initial goals of this BBCS are to:

- provide a framework to facilitate compliance with federal law protecting avian species and a means to document compliance for regulators and the interested public;
- allow the Agent to manage risk to protected bird and bat species in an organized and cost-effective manner;
- establish a mechanism for communication between PVMSP managers and natural resource regulators (primarily USFWS);
- foster a sense of stewardship with PVMSP owners, managers, and field engineers; and
- articulate and cultivate a culture of wildlife awareness (specifically birds and bats) and the importance of their protection.

BIO-8 To mitigate for permanent habitat loss and direct impacts to Mojave fringe-toed lizards the Applicant shall provide compensatory mitigation at a 3:1 ratio, which may include compensation lands purchased in fee or in easement in whole or in part, for impacts to stabilized or partially stabilized desert dune habitat (i.e., dune, sand ramp, or fine-sandy wash habitat). Suitable Mojave fringe-toed lizard habitat is located throughout the gen-tie line corridor and potential habitat was detected on approximately three percent of the Project area (creosote bush scrub habitat). If compensation lands are acquired, the Applicant shall provide funding for the acquisition in fee title or in easement, initial habitat improvements and long-term maintenance and management of the compensation lands.

BIO-9 Impacts to areas under jurisdiction of the USACE, Regional Water Quality Control Board (RWQCB), and CDFW shall be avoided as necessary to reduce impacts to less than significant levels. Where avoidance of jurisdictional areas is not necessary to reduce impacts to less than significant levels, including emergency repairs, and access/spur roads within the ephemeral channel, the applicant shall provide the necessary mitigation required as part of wetland permitting. This will include creation, restoration, and/or preservation of suitable jurisdictional habitat along with adequate buffers to protect the function and values of jurisdictional area mitigation. The location(s) of the mitigation will be determined in consultation with the Applicant and the responsible agency(s) as part of the permitting process.

BIO-10 A Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) will be developed to summarize all of the various biological mitigation, monitoring, and compliance measures and include measures from the various biological plans and permits developed for PVMSP. The BRMIMP shall include the following:

1. All biological resources mitigation, monitoring, and compliance measures outlined in this EIR;
2. All biological resource mitigation, monitoring and compliance measures required in federal agency terms and conditions, such as those provided in the USFWS concurrence letter that the Project is "not likely to incidentally take or otherwise adversely affect" federally listed species (FWS-ERIV-12B0299-12I0497);
3. All biological resource mitigation, monitoring and compliance measures outlined in the Burrowing Owl Mitigation and Monitoring Plan and the Bird and Bat Conservation Strategy (the full biological plans will be included in the attachments to the BRMIMP);
4. All locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction and operation;
5. Duration for each type of monitoring and a description of monitoring methodologies and frequency;
6. Performance standards to be used to help decide if/when proposed mitigation is or is not successful; and
7. A process for proposing plan modifications to appropriate agencies for review and approval. The BRMIMP document shall be provided at least 60 days prior to start of any Project-related ground disturbing activities to the County for review and approval. Implementation of BRMIMP measures will be reported in the monthly compliance reports by the Lead Biologist (i.e., survey results, construction activities that were monitored, species observed).

3.5 Cultural Resources

This section addresses the potential impacts of the proposed Project to cultural resources in the Project vicinity in accordance with the significance criteria established in Appendix G of the CEQA Guidelines. Paleontological resources are addressed in Section 3.12 of this EIR. This chapter is based on the Palo Verde Mesa Solar Project Cultural Resource Survey Report, prepared by Power Engineers (POWER), 2013 (see Appendix E).

Cultural resources are defined as prehistoric and historic sites, structures, districts, and landscapes, or any other physical evidence associated with human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious or any other reason. For the purposes of this analysis, cultural resources may be categorized into three groups: archaeological resources, historic built environment resources, and contemporary Native American resources.

Archaeological resources are places where human activity has measurably altered the earth or left deposits of physical remains. Archaeological resources may be either prehistoric-era (before European contact) or historic-era (after European contact). The majority of such places in California are associated with either Native American or Euro-American occupation of the area. The most frequently encountered prehistoric or historic Native American archaeological sites are village settlements with residential areas and sometimes cemeteries; temporary camps where food and raw materials were collected; smaller, briefly occupied sites where tools were manufactured or repaired; and special-use areas like caves, rock shelters, and rock art sites. Historic-era archeological sites may include foundations or features such as privies, corrals, and trash dumps.

Historic built environment resources include standing structures, infrastructure, and landscapes of historic or aesthetic significance that are generally 50 years of age or older. Some resources, however, may have achieved significance within the past 50 years if they meet the criteria for exceptional significance. Historic built environment resources are often associated with archaeological deposits of the same age.

Contemporary Native American resources, also called ethnographic resources, can include archaeological resources, rock art, and the prominent topographical areas, features, habitats, plants, animals, and minerals that contemporary Native Americans value and consider essential for the preservation of their traditional values. These locations are sometimes hard to define and traditional culture often prohibits Native Americans from sharing these locations with the public.

3.5.1 Environmental Setting

Natural Setting

The Project area is located in the Colorado Desert, which is situated within the southern Basin-and-Range geomorphic province. The Colorado Desert's terrain consists of a series of broad, shallow southeast-trending valleys that drain into the Colorado River. Several playas, or closed basin sinks, exist on the valley floors (Warren et al., 1981). North-south trending weathered mountain ranges, rarely exceeding 4,000 feet in elevation, surround the valleys.

The climate of the Colorado Desert is generally hot and dry, with minimal rainfall. Summer daytime temperatures average 86 degrees Fahrenheit (F) with daytime maximum temperatures around 110 degrees F. Winter daytime temperatures average around 50-70 degrees F (Warren et al., 1981).

The Project is located on the Palo Verde Mesa, a series of raised river terraces associated with the Pleistocene course of the lower Colorado River. The mesa is bounded by the McCoy Mountains to the west and the Little and Big Maria Mountains to the north and east. The topography is relatively flat and slopes toward the southeast; elevations range from 260 to 400 feet above mean sea level (AMSL). Much of the Project contains well-developed, heavily patinated stable desert pavements. Within portions of the Project area, extensive deposits of water-rounded cobbles, known as "pebble terraces," sit atop remnant river terraces. The pebble terraces were used by the prehistoric inhabitants of the region as a source of fine-grained stone for the production of flaked stone tools.

Surface water sources are minimal on the Palo Verde Mesa, limited to seasonal and perennial sources. Perennial water comes from McCoy Springs in the McCoy Mountains west of the Project area. Springs, including McCoy Springs, are usually at the bases of the nearby mountains. Monsoon activity turns dry washes into raging torrents that cut through the Palo Verde Mesa. The Colorado River is less than eight miles east of the Project area.

The primary plant community in the Colorado Desert is the creosote scrub community, which is dominated by creosote bush and white bursage. Other plant communities include the cactus scrub community, which includes barrel cactus, calico cactus, and ocotillo, and the saltbrush series, which includes saltbrush, mesquite, arrowweed, and goldenbrush. Common animals include desert cottontail, jackrabbit, kangaroo rat, packrat, chuckwalla iguana, desert tortoise, and desert quail.

Paleoclimate

During the time that humans have lived in California, the region in which the Project is located, the Colorado Desert, has undergone several climatic shifts, which have influenced human use of the vicinity of the Project site.

The Pleistocene (1.8 million to 10,000 years ago), and the Holocene (10,000 years ago to the present) environmental record from the Mojave Desert provides a model for the Colorado Desert. The environmental record from the Mojave Desert indicates that the climate of the Late Pleistocene and Holocene was characterized by periods of warm, dry conditions interspersed with periods of cooler, wetter climate (Grayson, 1993). During the wetter periods of the Holocene (the Late Pleistocene [prior to 10,000 years ago), the Neoglacial [1500-600 BC], and the Little Ice Age [1350-1850 AD]), some of the basins in the Mojave Desert and Colorado Desert regions became shallow lakes, with extensive marshy shorelines. Being sources of food, water, and materials, these lakes would have attracted Native Americans use and settlement (Gallegos et al., 1980). The elevation of the Palo Verde Mesa prevented a lake from forming where the Project would be located, but within a few miles to the west, two lakes, Ford Dry Lake and Palen Dry Lake, are known to have existed.

Periodically, the Colorado River dramatically flooded, changed course, and flowed into previously dry inland areas. After some of these large flood episodes, water from the Colorado River was diverted into the Salton Trough, creating an inland freshwater lake known as Lake Cahuilla, located approximately 40 miles to the southwest of the Project area. The lake formed and receded in no fewer than three separate events between A.D. 1200 and the late 1600s (Schaefer and Laylander, 2007). It is unknown whether the lake was present during the earlier Holocene; however, little evidence exists of Early or Middle Holocene archaeological sites along the lake margins. At its maximum, the lake would have covered an area of 5,500 square kilometers and had over 400 kilometers of shoreline (Laylander, 2006). Plant and animal life would have abounded along the lake's shore and attracted both permanent and seasonal human occupation. When the lake was present, it was home to freshwater fish, shellfish, aquatic birds, and riparian flora and fauna. In addition, the lake was a source of potable water for the human and animal populations (Laylander, 2006).

Prehistoric Setting

Paleoindian Period (~12,000 to 8,000 B.P.)

This first period of human occupation in California is commonly referred to as the Paleoindian Period (~12,000 to 8,000 years Before Present [B.P.]). Evidence of a permanent Paleoindian occupation in the Colorado Desert is scant. Isolated Paleoindian projectile points (large fluted points) have been recovered on the surface at several locations, including Pinto Basin, Ocotillo Wells, Cuyamaca Pass, and the Yuha Desert (Rondeau et al. 2007). However, few Paleoindian archaeological sites have been identified in the Colorado Desert. The dearth of evidence may be due to a lack of large-scale data recovery efforts in the region, or Paleoindian sites in the region may be of a more ephemeral nature due to ecological instability and highly mobile populations (Schaefer and Laylander, 2007). For instance, during this time period Ford Dry Lake, located west of the Project area, appears to have contained only temporary playa lakes and not perennial pluvial lakes, which would have allowed for more permanent settlement near a stable resource base (Kenney, 2010).

Archaic Period (8,000 to 1,500 B.P.)

During the Archaic period (8,000 to 1,500 B.P.), climates were generally warmer and drier. Populations grew and prehistoric economies became more diversified, shifting away from large game hunting. New technologies, such as the milling stone, indicate an increasing dependence on plant resources. Archaic period projectile points include Gypsum, Elko, and Humboldt series.

Significant Archaic period sites in the Colorado Desert are the Indian Hill Rockshelter site in present-day Anza-Borrego Desert State Park; a small rock shelter in Tahquitz Canyon; and several sites in the northern Coachella Valley (Schaefer, 1994; Schaefer and Laylander, 2007). Excavations at Indian Hill Rockshelter uncovered a late Archaic period deposit to depths of 1.5 meter, including rock-lined storage pits, hearths, Elko series projectile points, milling stones, and three burials. The site appears to have been seasonally exploited over a long time frame suggesting continued resource exploitation of a stable source (Schaefer and Laylander, 2007). Tahquitz Canyon is a rockshelter located in Palm Springs. Cached milling equipment was recovered from storage pits, similar to those at Indian Hill Rockshelter. A lack of midden at this

site suggests more intermittent, temporary occupation by foraging parties (Schaefer and Laylander, 2007). The northern Coachella sites produced deeply buried deposits, clay-lined hearths, shell beads, milling equipment, Coso obsidian bifaces, and faunal remains. Their earliest components have been radiocarbon dated to around 3,000 years B.P. (Love and Dahdul, 2002).

It has been suggested that rock art first appears in the Colorado Desert during this time period (Schaefer and Laylander, 2007). Rock art is present in the McCoy Archaeological District, northwest of Blythe. The district includes over 227 archaeological sites, many directly associated with the spring (McCarthy, 1993).

Late Prehistoric Period (1,500 B.P. to Historic Period)

By the Late Prehistoric period (1,500 B.P to the historic period), an extensive network of established trade routes wound their way through the desert. Several major trails crossed the Mojave and Colorado Deserts before and at the time of Spanish contact, and continued to be used not only by the native peoples but by Euro-American explorers as well. The Yuma-Needles Trail ran from south of Yuma up the western side of the Colorado River to the Needles area. The Mojave Trail ran from Needles west across the desert to the coast. The Coco-Maricopa Trail, an important prehistoric transportation corridor from the Colorado River to the Pacific Coast, ran from Arizona through the Salton Sink and then northwest to meet the Mojave Trail near San Bernardino, passing south of the Project area through an east-west trending valley pass (Greene, 1983). The complex network of prehistoric trails consisted of major travel routes and special activity areas, interconnected with smaller trails. Broken ceramic vessels, lithic debitage, and small rock features or shrines are often found along trails (Schaefer, 1994). It is also believed that these trade routes encouraged or were the motivating factors for the development of an "increasingly complex socioeconomic and sociopolitical organization" within Protohistoric peoples in the Southern California area.

Artifacts typical of the Late Prehistoric period include Desert Side-notched and Cottonwood projectile points, brownware and buffware ceramics, and steatite shaft straighteners. Ceramics appear to have been introduced in the Salton Basin by about 1,000 B.P. Imported goods from the California coast, such as shell beads, are also found and testify to the importance of trade during this period. Late Prehistoric sites are often associated with trails, pictographs, petroglyphs, bedrock milling surfaces, and rock shelters. During this period, a shift took place along the Colorado River from hunting and gathering to floodplain horticulture. A large number of Late Prehistoric sites have been found on the shoreline of ancient Lake Cahuilla (Schaefer, 1994).

Numerous geoglyphs exist in the lower Colorado River area, the most well-known of which are the Blythe Intaglios, large anthropomorphic (human-shaped) and zoomorphic (animal-shaped) figures located along the Colorado River north of the town of Blythe, California. The anthropomorphic figures are 20 to 25 meters (65 to 82 feet) long, and two figures are flanked by a smaller, four-legged animal figure. Although there is a notable absence of reliable chronological indicators such as time-sensitive artifacts or charcoal-bearing features associated with the Blythe geoglyphs, they are generally estimated to be about 1,000 years in age, although this date is the subject of controversy (Gilreath, 2007).

Ethnographic Setting

Currently, the region in which the Project site is located is believed to have been occupied at various times by multiple Native American groups, including the Chemehuevi, Cahuilla, Mojave, Quechan, and Halchidhoma. The boundaries of tribal territories would have fluctuated over time.

Mojave

Mojave oral tradition, supported by archaeological evidence, suggests that the Yuman-speaking Mojave Indians, or Aha Makav, were also among the earliest residents in the Mojave Desert. They moved from the area approximately 500 years ago to the Colorado River where they were documented by Father Francisco Garcés, a Spanish explorer, in 1776. Another Spanish explorer, Juan de Onate, may have observed this group as early as 1604 based on his descriptions of the "Mojave" people along the Colorado River.

The Mojave territory centered on the Colorado River and the Mojave Valley, but their territory may have at times extended south to Blythe, and west possibly as far as the Twentynine Palms area. The Mojave, whose runners were known for their physical stamina and running abilities, actively traded with the Serrano and other groups farther to the west, and would have frequently travelled through the Mojave Desert. The Mojave were floodplain agriculturalists, growing corn, pumpkins, beans, and melons. Wild plant gathering augmented agriculture production, with women gathering cactus, wild seeds, and screwbean. Fish was the most important protein source for the Mojave, with dip nets, drag nets, traps, and large basketlike scoops used to catch fish out of the river. However, the Mojave were not sedentary agriculturalists and Mojave settlements were typically small and widely dispersed. At the time of contact with European explorers, dwellings typically consisted of flat-topped shade structures during the summer months and low, rectangular, sand-covered structures during the winter months. The roofs were typically covered with arrow weed thatch, upon which a thick layer of muddy sand was created for insulation.

Mojave religious beliefs emphasized a connection between the natural world and the supernatural world, and each Mojave individual was seen to have an ability to connect through dreams to the spiritual world. In this dream state, key geographic landmarks such as mountains and springs guided travel through time and space. Mojave oral tradition is similarly tied to the natural world, with stories and songs recounting journeys or mythological figures in the context of important landmarks and landscapes. Alfred Kroeber noted that Mojave interviewed in the early 20th century explained that dreams were often experienced in close connection with Tribal history and mythological traditions.

The Mojave successfully resisted Spanish attempts at colonization and maintained traditional lifeways and political systems until the U.S. military gained control of the area in the 1850s. Subsequently, many Tribal members relocated to an area south of Parker, Arizona, in 1859. Additional Mojave settled there when the Colorado River Indian Tribes (CRIT) Reservation was founded in 1865. The CRIT Reservation today includes almost 300,000 acres of land in both California and Arizona, and is centered on the Colorado River about 8 miles east of the Project site. This reservation includes business interests focusing on agriculture, a casino, outdoor recreation, and light industry. The CRIT Reservation has about 3,500 Mojave, Chemehuevi,

Hopi, and Navajo members. Although the four combined groups are united within the CRIT Reservation and act as a single geopolitical unit, each Tribe continues to maintain and observe its individual traditions, distinct religion, and unique cultural character.

The Fort Mojave Indian Reservation was founded in 1870. It currently has over 1,100 members and is located along the Colorado River and covers nearly 42,000 acres in Arizona, California, and Nevada, about 75 miles north of the Project area (FMIT, 2013).

Chemehuevi

The Numic-speaking Chemehuevi, the southernmost of 16 groups of Southern Paiute speakers, had a territory that stretched from the Colorado River to the San Bernardino Mountains. The Chemehuevi moved into the eastern Mojave Desert around 1500 A.D. The word "Chemehuevi" is in fact a Mojave word that means "those that play with fish" (Chemehuevi Indian Tribe 2013). The Chemehuevi name for themselves is Nuwu (The People). The Chemehuevi are considered to be the most southern sociopolitical division of the Southern Paiute, although a substantial amount of intercultural interaction occurred between the Chemehuevi and Mojave. Individual bands of Chemehuevi people traditionally inhabited a large range, containing areas in Nevada, California, and Arizona.

The oral tradition of the Chemehuevi suggests that they migrated from the north and engaged the Mojave group in a long war that drove the Mojave east to the Colorado River. Archaeological evidence indicates that the war ended between 250 and 500 years ago (King and Casebier, 1981).

The harsh desert environment typical of the Colorado and Mojave deserts could support only the smallest groups comprised of nuclear families joined by kinship ties. These small hunter-gatherer groups moved in response to local food and water availability, typically seasonally or more frequently. The lack of resources of the area created a very diverse hunting economy where small game were important protein sources. Pronghorn sheep, mountain sheep, deer, rabbits, squirrels, desert chipmunks, and wood rats were important mammals in the local diet along with reptiles, such as desert tortoises, snakes, and lizards, and birds, eggs and insects. Bighorn sheep and desert tortoise have traditionally been considered important animals to the Chemehuevi, as well as neighboring Cahuilla and Mojave peoples. Agriculture was introduced to the Chemehuevi by their eastern neighbors and they cultivated crops of various types of maize and corn, squash, gourds, wheat, and potatoes along the Colorado River.

The Chemehuevi utilized the paddle-and-anvil technique for their pottery, which included cooking pots, storage jars, spoons, scoops, and large vessels. They also utilized twining techniques for their basketry, which were used for transporting items, winnowing and parching, seed beating, boiling water, and storage. Other artifacts associated with the Chemehuevi included the mano and millingstone (metate), mortar and pestle, digging sticks, and the sinew-backed bow with arrows of cane or willow. In addition to locally consumed trade goods, the Chemehuevi acted as "middle-men" in the long distance trade networks from groups to the west and the Pacific Coast and the Central Valley to the groups in the Southwest and along the Colorado River.

The Chemehuevi were divided into two moieties represented by two songs, the Mountain Sheep Song and the Deer Song, which were each associated with different hunting areas. They generally lived in bands of two or three families, each band having a leader. The Chemehuevi were occupying the oasis of Mara (Twentynine Palms) when permanent settlement of the area by Europeans and Americans began. Livestock depleted the natural resources of the region and Euro-American settlers began to claim large pieces of land and associated water rights. Following the Civil War, the traditional Native subsistence base was threatened by the influx of settlers and accompanying livestock. With these resources unavailable, the Chemehuevi were employed on ranches, building railroads, and in the newly opened mines.

In 1853 the Chemehuevi lost their traditional lands to the United States Government. The Chemehuevi Valley Reservation was established in 1907. However, Tribal members were soon relocated to the Parker, Arizona, area and their status as a federally recognized Tribe was taken away. In 1935, the United States Congress authorized as much acquisition of the reservation land as necessary for the Parker Dam Project, which resulted in the inundation of nearly 8,000 acres of reservation land (Chemehuevi Indian Tribe, 2013). The Tribe was again recognized by the federal government as the Chemehuevi Tribe in 1970. Today, the Chemehuevi Indian reservation comprises approximately 32,000 acres of trust land, including 30 miles of Colorado River frontage located approximately 53 miles north of the Project site.

Chemehuevi descendants also reside on the Colorado River Indian Tribes (CRIT) Reservation and the Twentynine Palms Band of Mission Indians Reservation, as well as on several other reservations. In 1890, 160 acres were set aside for a reservation for the Chemehuevi near Twentynine Palms, located about 80 miles northwest of the Project site. In 1910, 640 acres adjacent to the existing Cabazon reservation in Coachella, located about 90 miles west of the Project site was given jointly to the Cahuilla and the Chemehuevi, and those who remained on the Twentynine Palms reservation were encouraged to move there. Some went, some stayed, and others chose to settle elsewhere in California.

Halchidhoma

During the early historic period, the Yuman-speaking Halchidhoma lived along the Colorado River between Blythe and Needles. Traditional Halchidhoma territory was located south of the confluence of the Gila and Colorado Rivers. Early Spanish explorers noted eight Halchidhoma villages along the river south of the Gila River. The Halchidhoma were known to be travelers and traders, and traded with groups from the Pacific coast to present-day Arizona. Frequently fighting with their neighbors the Quechan and Mojave, the Halchidhoma pursued alliances with the Maricopa and Cocopa peoples along the Gila River. Around 1700, the Halchidhoma migrated to the Colorado River area north of Blythe, but were almost immediately besieged by the neighboring Mojave and Quechan. By 1825, they had been driven east to the Gila River to settle with their Maricopa allies.

Like other River Yuman groups (such as the Quechan and Maricopa), the Halchidhoma practiced dry farming in the Colorado River floodplain. Harvest of mesquite and screwbean, which grew in dense groves near the river, supplemented horticultural practices. Ironwood and Palo Verde trees, which were located farther from the river, also provided seeds (Harwell and Kelly, 1983).

Today, the Halchidhoma are part of the Salt River Pima-Maricopa Indian community, located near Phoenix, Arizona, about 165 miles east of the Project site. The reservation consists of Akimel O'Odham (Pima) and Maricopa Xalychidom Piipaash (Maricopa) peoples (Salt River, 2013).

Cahuilla

The Cahuilla were a Takic-speaking people consisting of hunters and gatherers who are generally divided into three groups based on their geographic setting: the Pass Cahuilla of the Beaumont/Banning area; the Mountain Cahuilla of the San Jacinto and Santa Rosa Mountains; and the Desert Cahuilla from the Coachella Valley, as far south as the Salton Sea (Bean, 1978). At the time of Spanish contact, the Cahuilla lived primarily in permanent villages, utilizing temporary camps on the desert floor and in the mountains to maximize the exploitation of resources throughout the region. Cahuilla villages are reported to have been located throughout the mountains and valleys, covering a geographic area that ranged from the San Bernardino Mountains in the north, to Borrego Springs and the Chocolate Mountains in the south, to the Colorado Desert west of the Orocopia Mountains in the east, to the San Jacinto Plain in the west, and to the eastern slopes of Palomar Mountains (Bean, 1978).

The Cahuilla social structure revolved around clans and exogamous moieties (components connected through inter-marriage). Interaction between clans was limited to trade, intermarriage, and performing ceremonies. Individual clans had villages, or central places, and territories they considered theirs for purposes of hunting game, gathering food and other necessary resources. Important subsistence resources included acorns, agave, pinyon, greens, wild fruits and bulbs, mesquite pods, deer, small terrestrial mammals, birds, and fish (Bean, 1978).

House structures of the Cahuilla ranged from "brush shelters to dome-shaped or rectangular structures 15-20 feet long" (Bean, 1978). Hunting, in conjunction with the exploitation of a variety of available resources governed the Cahuilla subsistence strategy. The material culture of the Cahuilla was extensive and varied, and included pottery, ornamental items, and a number of knapped stone tools.

Population estimates for pre-contact Cahuilla range from 3,600 to as high as 10,000 persons. Due to European diseases, such as smallpox, the Cahuilla population was decimated during the 19th century. However, unlike many other Native American populations in Southern California, the Cahuilla were able to retain their autonomy even after the arrival and increasing control of European explorers and the settling governments that followed. It was not until the late 19th century that the Cahuilla culture and its population began to succumb to the pressure of Euro-American governing bodies (Bean, 1978). Reservation lands were created for the Cahuilla beginning in the 1870s. Today there are nine Cahuilla Reservations: Agua Caliente, Augustine, Cabazon, Cahuilla, Los Coyotes, Morongo, Ramona, Santa Rosa, and Torres-Martinez, the nearest of which, the Torres-Martinez Reservation, is located 80 miles west of the Project site.

Quechan

The Quechan are a Yuman-speaking group whose territory extended along the Colorado River from Blythe in the north to Mexico in the south. The largest number of Quechan reportedly lived

at the confluence of the Colorado and Gila rivers, although they were not encountered in that area in 1540 when Spanish expeditions reached the confluence (Forde, 1931). Prior to contact, the Quechan populations may have reached 4,000.

Quechan subsistence was based on a combination of horticulture, fishing, and gathering. Plants such as maize, melons, teparies, corn, black-eyed beans, and pumpkins were cultivated in the rich silt of the Colorado River floodplain. During wet winter and spring months, Quechan groups occupied seasonal villages located above the river floodplain. In the summer and fall, small kin groups would relocate along the river to plant crops. Diets were supplemented with fish taken from the river (Forde, 1931). Several villages were located along the Colorado River, including *Avi Kwotapai* located on the west side of the Colorado River between Blythe and Palo Verde Valley and *Xenu mala vax* on the east side of the river near present-day Ehrenberg.

For the Quechan, like other lower Colorado River groups, individual dreaming to seek guidance in life and spiritually based power was a principal aspect of religious belief and practice (Forde, 1931). This included learning sacred songs about events that occurred at the time of the creation of the world through dreaming. Singing these songs was, and remains, a principal avenue of religious expression. The dreaming experience meant that sacred places could be visited, and the sacred landscape traversed, through dreaming rather than through conventional travel, although physical travel along trails to sacred places was also an important aspect of the religious experience. Travel on key Native American trails continues to be a cultural practice today to commemorate and experience traditional culture. The geography of sacred places related to the sacred song cycles of Yuman groups is a major cultural feature of the lower Colorado River region. In the early 20th century, Alfred Kroeber collected large quantities of information on places mentioned in Mojave song cycles, from as far afield as the Pacific Ocean, the Tehachapi Mountains, the Gulf of California, Tucson, and southern Nevada.

The Fort Yuma-Quechan Reservation was established in 1884. The reservation is located near Yuma, Arizona, and includes 45,000 acres of land in Yuma County, Arizona, and in Imperial County, California, about 60 miles south of the Project site. Approximately 2,475 members are currently enrolled in the Fort Yuma-Quechan Reservation (ITCA, 2013).

Historic Setting

Early Exploration and Settlement

The historic period for southeastern California began in 1540 with the explorations of Hernando de Alarcón, who traveled up the Colorado River from the Gulf of California, and Melchior Diaz, who came by land to the Winterhaven/Yuma area. The first non-native, historic-period utilization of the desert region was as a passageway between destinations. For almost a century, no permanent settlements of any kind were established in the region. In 1774, Father Francisco Garcés accompanied an expedition led by Juan Bautista de Anza from the San Gabriel Mission to the junction of the Gila and Colorado Rivers.

Several major trails crossed the Mojave before and at the time of Spanish contact, and continued to be used not only by the native peoples but by Euro-American explorers as well. The Yuma-Needles Trail ran from south of Yuma up the western side of the Colorado River to the Needles

area. The Mojave Trail ran from Needles west across the desert to the coast. The Cocomaricopa Trail ran from Arizona through the Salton Sink and then northwest to meet the Mojave Trail near San Bernardino (Greene, 1983).

The Spanish missions that dotted the California coast never spread inland, and the desert remained relatively unexplored and unsettled by Europeans for much of the next century. The Romero-Estudillo Expedition of 1823-24 was an attempt by the Spanish to establish a secure route between the California Coast and Tucson; however, despite two attempts, the expedition never managed to make it as far as the Colorado River (Greene, 1983).

The first recorded American visitors to the Mojave were the party of Jedediah Smith, who crossed the Mojave along the Mojave Trail in 1826. Ewing Young and Kit Carson followed his route in the 1820s and 1830s. Several American and Mexican military expeditions were conducted in the 1840s and 1850s. American involvement in the region was limited during the early 19th century, but certain figures and events made lasting impressions on the landscape (Greene, 1983).

In 1821, Mexico won its independence from Spain. Mexico continued to promote settlement of California with the issuance of land grants. In 1833, Mexico secularized the missions, reclaiming the majority of mission lands and redistributing them as land grants. Mexico ceded California to the United States as part of the Treaty of Guadalupe Hildalgo, which ended the Mexican-American War (1846-1848).

Mining

In 1848, gold was discovered by James W. Marshall at Coloma, some 400 miles to the north of what? on the American River. The gold rush began and immigrants flooded into California. Investors began seeking the construction of a transcontinental railroad to facilitate transportation to the gold-rich region. The discovery of the Comstock Lode in Nevada in 1859 shifted attention from gold to silver, and miners began to focus on the desert regions (Vredenburgh, 2005).

The 1880s were fairly prosperous for mining in the Mojave Desert, and operations at that time were dominated by gold mining. In the 20th century, mining operations were beginning to bring out borax, zinc, and silver and they began to rework old deposits in the 1910s. Productivity fell off in the 1920s due to increased inflation, but was revived during the Great Depression and accelerated in the early 1940s to meet war-time demands. By 1956, the declining gold prices caused most small gold operations to close (Vredenburgh et al., 1981).

Mining began in the deserts of eastern Riverside County around 1865, with the discovery of gold in the Mule Mountains and iron ore in the Eagle Mountains (Vredenburgh et al., 1981). The discovery of copper in the Palen Mountains and gold and silver in the Chuckwalla Mountains in the 1880s, in conjunction with the expansion of the Southern Pacific Railroad into the desert, caused the largest gold rush in Riverside County history.

The McCoy Mountains were a part of the Ironwood Mining District, which yielded deposits of iron, manganese, copper, clay, and uranium. Some gold and silver also occurs. Copper was mined in the McCoy Mountains, particularly at the Badger State claims on the northeastern side of the

mountains. These mines opened around the turn of the 20th century and operated until 1917 (Vredenburgh et al., 1981). Beginning around World War I, demand for manganese, which is used in the manufacture of hardened steels, rapidly increased. As many as 10 manganese mines, employing 225 to 300 people, were active in the McCoy Mountains at that time (Vredenburgh et al., 1981). After World War I, the price of manganese fell, and mining ceased. However, World War II again increased the demand for manganese, and manganese mining resumed in the McCoy Mountains, lasting until the 1950s.

Early Settlement of Blythe

With the passage of the Homestead Act in 1862, vast areas of public land were opened up to private citizens, and agriculture became an economically important industry in California. Although much of the desert lands were poorly suited to farming, the Palo Verde Valley of the lower Colorado River was an exception. In anticipation of agricultural and residential development, Thomas Blythe, an English emigrant and entrepreneur, acquired 40,000 acres of land along the Colorado River for agricultural development and settlement in the late 19th century. He named his small settlement, later incorporated in 1916, after himself.

Blythe died in 1883 before his development could be fully completed, but agricultural practices already had begun to take place and continued to be developed in the area. On the Palo Verde Mesa; however, in the vicinity of the MSEP, agriculture was never a significant pursuit due to the poor soils and lack of readily accessible water. In the early twentieth century, some ranching activities were attempted on the mesa.

Transportation

The construction and expansion of the Southern Pacific Railroad into the desert in the late 1870s facilitated travel to the remote areas of eastern Riverside County and development of mines and settlement in the area. By the early 20th century, the automobile became the preferred mode of transportation. The main route across the eastern Riverside County desert was a County road from Mecca to Blythe. Highway 60 was constructed along this route in the early 1920s, which was followed by Interstate 10 in the 1960s.

Water Access and Control

The Colorado River travels 1,400 miles (2,253 kilometers [km]) from its headwaters in the Colorado Rocky Mountains to the Gulf of California, picking up vast quantities of sediment along the way. Prior to completion of a series of dams on the lower Colorado River, beginning with the Hoover Dam in 1935, the river frequently changed its course and overflowed its banks. The completion of the Hoover Dam in 1935 regulated the flow of the Colorado River, improving agricultural conditions in the Palo Verde Valley.

The Colorado River Aqueduct (CRA) was constructed in the 1930s by the Metropolitan Water District of Southern California in order to transport water from the Colorado River to the Los Angeles metropolitan area. The aqueduct stretches from Lake Havasu on the Colorado River to Lake Matthews, south of Riverside. Construction of the aqueduct began in 1933 and the first delivery of water occurred in 1941. Approximately 3,500 people were employed constructing the CRA during the Depression era. The completed aqueduct extends 242 miles, crossing the Mojave

and Colorado deserts before reaching the Santa Ana Mountains and dropping into the Los Angeles area. It delivers approximately one billion gallons of water a day. Related projects included roads and electrical power transmission lines. Most project-related work was conducted out of temporary camps; however, permanent structures, such as the Iron Mountain pumping station, supported a higher number of longer-lasting settlements. The CRA is still in use.

Desert Training Center/California-Arizona Maneuver Area (DTC/C-AMA) and Joint Operation Desert Strike

In 1942, General George S. Patton, Jr., and the US Army created the Desert Training Center, later called the California-Arizona Maneuver Area (DTC/C-AMA), which encompassed over 30,000 square miles of California, Arizona, and Nevada, as a training ground for military personnel who would be fighting overseas. Originally intended as a training ground that would simulate the harsh conditions of the North African deserts, the training center was operational for two years. At the height of its two-year period of operation in July, 1943, over 190,000 armed forces personnel were stationed within the DTC/C-AMA (Bischoff, 2000). Fourteen divisional camps, along with airfields, bivouacs, hospitals, and numerous other supporting facilities were constructed during the DTC/C-AMA's two-year period of operation. Much of the land outside of the camps was used as maneuver areas for training exercises; evidence of these exercises, such as foxholes, tank tracks, debris scatters, and aircraft landing strips, can still be found. In April, 1944, the Desert Training Center was closed and land returned to private use.

The valley bordered by the Palen, Little Maria, and McCoy Mountains is considered one of the most extensive maneuver areas in the DTC/C-AMA. Lasting for weeks or months, the maneuvers required soldiers to live in makeshift bivouacs in the desert and engage in "sham battles". The most notable battles in this area occurred in 1942, when one team took over the town of Blythe with tanks.

The DTC/C-AMA area was again used for military training in 1964 for Joint Exercise Desert Strike (Desert Strike). From May 16, 1964 to May 30, 1964, the Mojave and Phoenix joint task forces, including forces from the Army, Air Force, National Guard and several Army Reserve units, occupied about 13 million acres of the desert in California, Arizona, and Nevada for military training exercises. The maneuvers, which at the time were the largest military maneuvers since WWII, employed nearly 90,000 troops and cost over $35 million (U.S. Army, n.d.). Like the DTC/C-AMA, the purpose of Desert Strike was to prepare troops for the realities of combat and war to the greatest degree possible without the use of live ammunition. The exercise was framed as a nuclear air and ground battle between two fictitious world powers called "Calonia" and "Nezona", with the Colorado River serving as their common border. Although the exercise itself only lasted two weeks, logistical planning began in November of 1963, and troop deployment began on April 11, 1964, with redeployment ending on July 20, 1964 (U.S. Army, n.d.).

Blythe Army Air Base

The Blythe Army Air Base (BAAB), a major military camp at the DTC/C-AMA, is located to the southeast of the Project. The airfield initially was constructed as a Civil Aeronautics Administration flying field, but was commandeered by the Army in April 1942 for use in the

DTC/C-AMA exercises. Base housing was constructed and airfield facilities were improved. Later that year, the airfield was formally designated the Blythe Army Airbase.

By the end of 1942, support from BAAB was no longer needed and BAAB was relieved of its DTC air support role and was used for heavy bomber training under the 2nd Air Force. In total, BAAB's direct association with the DTC/C-AMA lasted only eight months, from April 1942 to the end of the same year (POWER, 2013).

After the closure of the DTC/C-AMA, BAAB became an alternative landing site for March Field in Riverside. In 1946, BAAB was closed and sold as surplus government property, before being sold to the County of Riverside, which currently operates a portion of the property as the Blythe City Airport (POWER, 2013). As a cultural resource, BAAB was documented in 2010 as resource P-33-18837 (POWER, 2013).

3.5.2 Regulatory Setting

Cultural Resources

Numerous laws and regulations require state and local agencies to consider the effects a project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies.

State

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State and is codified at Public Resources Code (PRC) Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or archaeological resources.

Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. The CEQA Guidelines (Section 15064.5) recognize that a historical resource includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (CRHR); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The facts that a resource does not meet either of the first two criteria outlined above, or that it is not identified in a historical resources survey, do not preclude the lead agency from determining that the resource may be a historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the CEQA Guidelines apply. If a project may cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired) in the significance of an historical resource, the lead agency must identify potentially feasible measures to mitigate these effects (CEQA Guidelines Sections 15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site may be treated in accordance with the provisions of Section 21083.2, which is as a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.2(b)). If preservation in place is not feasible, other mitigation measures shall be required.

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

California Register of Historical Resources

The CRHR is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1(a)). The criteria for eligibility for the CRHR are based upon the criteria for the National Register of Historic Places (NRHP) (PRC Section 5024.1(b)). Certain resources are determined by the statute to be automatically included in the CRHR, including California properties formally determined eligible for, or listed in, the NRHP.

To be eligible for the CRHR, a prehistoric or historical-period property must be significant at the local, state, and/or federal level under one or more of the following four criteria (PRC Section 5024.1):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the CRHR must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the NRHP, but it may still be eligible for listing in the CRHR.

Additionally, the CRHR consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The CRHR automatically includes the following:

- California properties listed on the NRHP and those formally determined eligible for the NRHP;
- California Registered Historical Landmarks from No. 770 onward; and
- California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the CRHR.

Other resources that may be nominated to the CRHR include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the NRHP, the CRHR, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Health and Safety Code Section 7050.5

California Health and Safety Code Section 7050.5 requires that, in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the California Native American Heritage Commission (NAHC) within 24 hours to relinquish jurisdiction.

California Public Resources Code Section 5097.98

Section 5097.98, as amended by Assembly Bill 2641, provides procedures in the event human remains of Native American origin are discovered during project implementation. Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. Section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendent (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

Assembly Bill (AB) 52

Assembly Bill (AB) 52 (Chapter 532, Statutes of 2014), which modified CEQA, requires lead agencies to consider the effects of projects on tribal cultural resources and to conduct consultation with federally and non-federally recognized Native American Tribes early in the environmental planning process. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) is filed on or after July 1, 2015. Because the Project's NOP was issued on August 8, 2012, the project is not subject to the requirements of AB 52.

Local

Riverside County

The Riverside County General Plan (amended December 2015) outlines policies intended to promote the preservation of cultural resources in the County of Riverside, as follows:

Land Use Element

Policy LU 9.1. Provide for permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, watercourses including arroyos and canyons, and scenic and recreational values.

Multipurpose Open Space Element

Policy OS 19.2. The County of Riverside shall establish a cultural resources program in consultation with Tribes and the professional cultural resources consulting community. Such a program shall, at a minimum, address each of the following: application processing requirements; information database (s); confidentiality of site locations; content and review of technical studies; professional consultant qualifications and requirements; site monitoring; examples of

preservation and mitigation techniques and methods; and the descendant community consultation requirements of local, state, and federal law.

Policy OS 19.3. Review proposed development for the possibility of cultural resources and for compliance with the cultural resources program.

Policy OS 19.4. To the extent feasible designate as open space and allocate resources and/or tax credits to prioritize the protection of cultural resources preserved in place or left in an undisturbed state.

Policy OS 19.5. Exercise sensitivity and respect for human remains form both prehistoric and historic time periods and comply with all applicable laws concerning such remains.

City of Blythe General Plan

The City of Blythe General Plan Open Space and Conservation Element addresses archaeological and historic resources. The purpose of the Open Space and Conservation Element is to identify those areas located within the City's Planning Area boundary that merit recognition or preservation because of their location use and/or natural, topographic, or aesthetic features. The applicable policy related to archaeological resources is provided below.

Policy 25. Protect archaeological, historic, and paleontological resources for their aesthetic, scientific, educational, and cultural value.

3.5.3 Methodology for Analysis

Archival Research

Records searches for the solar facility site and gen-tie line were conducted at the California Historical Resources Information System (CHRIS) Eastern Information Center (EIC) housed at University of California, Riverside on December 10, 2011 and May 31, 2012, respectively. The records searches included a review of all recorded archaeological sites within a 1-mile radius of the Project area, as well as a review of cultural resource reports on file. The records search also included a review of the NRHP, the CRHR, California Historical Landmarks (CHL) lists, and the California Points of Historic Interest. Additional archival research was conducted for the Project, including a review of the BLM's General Land Office (GLO) patent information, as well as consultation with the General George S. Patton Memorial Museum, the Palo Verde Historical Museum and Society, and a local historian.

EIC Records Search

Previous Studies

The records searches indicated that a total of 31 cultural resource studies have been conducted within a 1-mile radius of the solar facility site and gen-tie line. Though not included in the EIC records search results, two additional studies were conducted within 1 mile of the solar facility site and gen-tie line by POWER in 2010 (2013a) and 2011 (2013b), respectively, for a total of 33 previous studies conducted within 1 mile of the Project area. The records search revealed that

seven cultural resources studies have included portions of the Project area. Approximately 9%of the Project area has been previously surveyed as part of these previous studies.

Previously Recorded Cultural Resources

The record searches indicated that a total of 336 previously recorded cultural resources have been documented within a 1-mile radius of the Project area. Of these 336 resources, 103 are located within 1 mile of the solar facility site, 222 are located within 1 mile of the gen-tie line, and 11 are located within 1 mile of both the solar facility site and the gen-tie line. Of the 336 previously recorded resources, 195 are archaeological sites, 137 are isolated finds, and four are architectural/engineering resources (transmission lines). Of the archaeological sites, 63 are prehistoric sites, 99 are historic-period sites, 21 are multicomponent sites, and 12 have missing information. Of the isolated finds, 75 are prehistoric, 53 date to the historic-period, seven had both prehistoric and historic artifacts, and two inventory forms lacked descriptions of the artifacts. The prehistoric sites are predominantly lithic and ceramic scatters. The historic sites are primarily refuse deposits, many related to World War II training in the area, but also include survey markers, fence lines, roads, and one proposed historic district.

The records search indicated that two previously recorded resources (P-33-012532 [Niland–Blythe 161 kV Transmission Line] and P-33-014083 [Parker-Headgate Rock–Blythe 161 kV Transmission Line]) have been documented within the Project area, and one (P-33-002846 [prehistoric lithic quarry site]) has been recorded immediately adjacent to (within 100 feet of) the Project area. Based on the survey, resource P-33-002846 has been shown to extend into the Project area.

Resource P-33-012532 is a historic-period transmission line that is still in use today. The resource runs parallel to the gen-tie line for 1.5 miles and bisects a portion of it. The resource was initially recorded in 2000 as the Niland–Blythe 161 kV Transmission Line. The transmission line composed of wooden, H-frame towers that run between the Niland substation in Imperial County and the Blythe substation in Riverside County. The line was constructed between the 1940s and 1950s and is part of a system carrying power from the Davis and Parker Dams on the Colorado River to 31 substations. The resource was re-documented in 2005 by Wilson, Kwiatkowski, and Eckhardt; and revisited in 2008 by Eckhardt who found the line to be in good condition with various upgrades evident. Previous evaluations have recommended that the transmission line is not eligible for listing in either the NRHP or the CRHR (CEC and WAPA, 2000). The County of Riverside has previously determined that the resource is not eligible for listing in the CRHR (POWER, 2013a). The resource does not qualify as a historical resource under CEQA.

Resource P-33-014083 is a historic transmission line that is still in use today. This resource crosses the gen-tie line southeast of the solar facility site. A 0.8-mile segment of the transmission line was initially documented in 1999 as the Parker-Headgate Rock–Blythe 161 kV Transmission line. The transmission line was initially placed into service in 1943, modified, and completed in 1951. The resource has been evaluated and recommended as not eligible for listing in either the NRHP or CRHR (OHP Status Code 6Z) (CEC and WAPA, 2000). The resource does not qualify as a historical resource under CEQA.

Resource P-33-002846 is a large prehistoric lithic assay site on a pebble terrace at the base of the McCoy Mountains located approximately 95 feet north of solar facility site. The resource was originally recorded by the BLM in 1984 as a very large complex of assay sites that stretches for miles; however, unauthorized rock collecting was noted to have affected the integrity of the site. The site was determined by the BLM to be not eligible for the NRHP due to the previous disturbance; SHPO concurred with this determination. In 1988 the BLM conducted test excavations within the site, which indicated a lack of subsurface deposits throughout the terrace. Based on the lack of subsurface deposits, the BLM again concluded that the site lacked sufficient integrity to meet the criteria for NRHP listing (Mitchell, 1988). However, the site was visited by AECOM during surveys conducted in 2009 and 2010 and was recommended eligible for listing in the NRHP due to the density of artifacts and the potential for containing temporally diagnostic features. The BLM concurred with AECOM's recommendation and determined the site eligible for listing in the NRHP in a Memorandum of Agreement for the McCoy Solar, LLC, right-of-way grant (BLM, McCoy Solar, LLC, SHPO, ACHPR, 2012). Resources determined eligible for listing in the NRHP are automatically eligible for listing in the CRHR. As such, site P-33-002846 is eligible for listing in the CRHR and is considered a historical resource under CEQA.

BLM GLO Patent Information

A review of the GLO records available through the BLM website (www.glorecords.blm.gov) was conducted on February 16, 2012 to determine if historic-period improvements such as homesteads or water conveyance infrastructure associated with land patents are documented within the Project area. This patent information provides background related to the type of land grant filed, acreage and date of issuance. The information is organized by Township, Range, and Section. The review of the GLO records revealed that 28 land patents were filed within portions of the Project between 1912 and 1968. Most of the land patents were granted under the Homestead Entry Act of 1862 and the Desert Lands Act of 1877. GLO maps for this part of California were not found online, thus the locations of improvements, if any, were not determined.

Native American Contact

The NAHC maintains a confidential Sacred Lands File (SLF) that contains records of sites of traditional, cultural, or religious value to the Native American community. The NAHC was contacted in December, 2011 to request a search of the SLF. The NAHC indicated that no Native American cultural resources are known to be located within the Project area but included an attached list of Native American groups and individuals affiliated with the Project area. Contact letters to all individuals and groups indicated by the NAHC as having affiliation with the Project area were prepared and mailed in January 2012. A response was received from the Agua Caliente Band of Cahuilla Indians Tribal Historic Preservation Officer, who expressed concern regarding impacts to cultural resources and cumulative effects to surrounding resources, and who recommended a tribal monitor be present during ground-disturbing activities. In addition, the CEQA Notice of Preparation (NOP) was submitted to 29 Native American Tribal contacts. Responses were received from the Soboba Band of Luiseño Indians and the Morongo Band of Mission Indians, both of whom stated that the Project was located within their traditional tribal use area. The Soboba Band of Luiseño Indians indicated that a village site was located nearby,

and that they were concerned about cultural resources in the Project vicinity. Details of Native American contact can be found in *Chapter 1, Table 1-2, and in Appendix A.*

Cultural Resources Surveys

Between January 24 and February 2, 2012, an intensive pedestrian cultural resources survey of the 3,250-acre solar facility site was conducted. The 143-acre gen-tie line corridor was surveyed in 2010 and 2011 as part of the Blythe Mesa Solar Project (POWER 2013a, 2013b). Both surveys were conducted using transects spaced at 15-meter (50-foot) intervals in order to locate archaeological and architectural/engineering resources within or immediately adjacent to the Project area. Visible ground surfaces in drainage channels and other exposures were also examined. No subsurface survey (e.g., shovel test pits) was conducted.

Isolates were defined as consisting of three or fewer prehistoric artifacts of the same type (e.g., flakes or sherds), and five or fewer historic artifacts (e.g., cans, bottle glass). Archaeological sites were defined as consisting of four or more prehistoric artifacts or six or more historic artifacts within a 10-meter-square area. Sites and isolates were photographed, mapped using sub-meter hand held GPS, and documented on California State Department of Parks and Recreation (DPR) 523 forms. Detailed measurements of artifacts and features as well as site conditions were also documented.

Due to surface disturbance from past and modern use in many areas, ground visibility was, on average, good, although it was excellent in some locations. As a result of the cultural resources surveys, a total of 29 cultural resources were identified. Of these 29 resources recorded, 11 are archaeological sites, 16 are isolated finds, and two are the previously recorded architectural/engineering resources (P-33-012532 [Niland–Blythe 161 kV Transmission Line] and P-33-014083 [Parker-Headgate Rock–Blythe 161 kV Transmission Line]) indicated in the records search.

All of the newly-recorded archaeological sites are located within the solar facility site. Of the 11 archaeological resources, 10 are newly recorded and include five (P-33-002846, P-33-020948, P-33-020949, P-33-020950, and P-33-020951) prehistoric sites, three (P-33-020942, P-33-020943, and P-33-020944) historic-period sites, and three (P-33-020945, P-33-020946, and P-33-020947) multi-component sites. The prehistoric sites consist mainly of ceramic and lithic scatters and the historic-period sites include mainly refuse scatters. One previously recorded archaeological site (P-33-002846 [prehistoric lithic quarry] was found to extend into the northern portion of the solar facility site. The 8.3-acre portion of the site that extended into the solar facility site was recorded.

A total of 13 isolates were documented within the solar facility site. Of these 13 isolates, 12 (P-33-020929, P-33-020930, P-33-020931, P-33-020932, P-33-020933, P-33-020934, P-33-020935, P-33-020936, P-33-020937, P-33-020938, P-33-020939, P-33-020940, P-33-020941) are prehistoric, and one (P-33-020932) dates to the historic-period. A total of three isolates were documented within the gen-tie line portion of the Project area. Of these three isolated finds, one (P-33-021136) is prehistoric, one (P-33-021137) dates to the historic-period, and one (P-33-019770) includes both prehistoric and historic artifacts.

Due to their isolated nature and lack of clear cultural context, isolates are generally considered not eligible for listing in the CRHR. Because the Project has been designed to avoid ground-disturbance at or within 100 feet of all non-isolate archaeological resources (i.e., archaeological sites) identified during the cultural resources study, no archaeological testing to evaluate the significance of such resources was conducted. Therefore, archaeological sites identified during the cultural resources study that had not been previously evaluated for NRHP- and/or CRHR-eligibility or that were newly identified remain unevaluated for CRHR-eligibility. The two architectural resources (P-33-012532 and P-33-014083) identified in the gen-tie portion of the Project area had been previously evaluated for CRHR-eligibility, both being recommended not eligible.

Table 3.5-1 summarizes the survey results for the solar facility site and gen-tie line and includes CRHR-eligibility status.

TABLE 3.5-1
CULTURAL RESOURCES IDENTIFIED WITHIN THE PROJECT AREA

Primary Number (P-33-)	Description	Land Ownership	CRHR Eligibility
Solar Facility Site			
002846	Large prehistoric site consisting of a lithic quarry	Private	Eligible
020929	Prehistoric isolate consisting of one flake and one tested cobble	Private	Not Eligible
020930	Prehistoric isolate consisting of one flake and one tested cobble	Private	Not Eligible
020931	Prehistoric isolate consisting of one ceramic sherd	Private	Not Eligible
020932	Historic-period isolate consisting of one .50-caliber bullet casing	Private	Not Eligible
020933	Prehistoric isolate consisting of one flake	Private	Not Eligible
020934	Prehistoric isolate consisting of two flakes	Private	Not Eligible
020935	Prehistoric isolate consisting of one flake and one assayed cobble	Private	Not Eligible
020936	Prehistoric isolate consisting of one flake	Private	Not Eligible
020937	Prehistoric isolate consisting of one core and one scraper	Private	Not Eligible
020938	Prehistoric isolate consisting of one core and one flake tool	Private	Not Eligible
020939	Prehistoric isolate consisting of one flake	Private	Not Eligible
020940	Prehistoric isolate consisting of one flake	Private	Not Eligible
020941	Prehistoric isolate consisting of one flake scraper	Private	Not Eligible
020942	Historic-period site consisting of a refuse scatter that dates between 1940 and 1964	Private	Unevaluated
020943	Historic-period site consisting of a refuse scatter that dates between the 1930s and 1960s	Private	Unevaluated

Primary Number (P-33-)	Description	Land Ownership	CRHR Eligibility
020944	Historic-period site consisting of a can scatter that dates between 1931 and 1948	Private	Unevaluated
020945	Multicomponent site consisting of a historic-period refuse scatter that dates between 1900 and the present, and a prehistoric lithic and ceramic scatter	Private	Unevaluated
020946	Multicomponent site consisting of a historic-period refuse scatter that dates between 1900 and the present, and a prehistoric lithic and ceramic scatter	Private	Unevaluated
020947	Multicomponent site consisting of a historic-period refuse scatter that dates between 1900 and the present, and a prehistoric lithic scatter	Private	Unevaluated
020948	Prehistoric site consisting of a ceramic and lithic scatter	Private	Unevaluated
020949	Prehistoric site consisting of a ceramic scatter	Private	Unevaluated
020950	Prehistoric site consisting of a ceramic scatter	Private	Unevaluated
020951	Prehistoric site consisting of a lithic scatter	Private	Unevaluated
Gen-Tie Line			
012532	Niland-Blythe 161 kV Transmission Line	Private	Not Eligible
014083	Parker-Headgate Rock-Blythe 161 kV Transmission Line	Private	Not Eligible
019770	Multicomponent isolate consisting of one flake and one hole-in-top can	BLM	Not eligible
021136	Prehistoric isolate consisting of three ceramic sherds	BLM	Not eligible
021137	Historic-period isolate consisting of three key-opened cans	BLM	Not Eligible

Newly Recorded Resource Descriptions

Solar Facility Site

Previously recorded resource **P-33-002846** was found to extend into the northern portion of the solar facility site during the survey, and the boundaries of the site were updated to reflect this finding. The 8.3 acres of the site that extend into the solar facility site includes lithic materials scattered across five pebble terraces, interrupted by shallow ephemeral washes. Features noted within the Project site primarily included 32 single reduction loci (concentrations of tested cobbles or core fragments with associated primary and secondary flakes), cleared areas, and four lithic tools. The portion of the site that extends into the Project area is in poor condition due to vehicular and agricultural activities. Resource P-33-002846 has been previously determined eligible for listing in the NRHP by the BLM (BLM, McCoy Solar, LLC, SHPO, ACHPR, 2012). As such, the resource is automatically eligible for listing in the CRHR and is a historical resource under CEQA.

Resource P-33-020929 is a prehistoric isolate consisting of one brown chert secondary flake and one lime green chert assayed cobble with flakes removed from two edges. The lithics are located

in an agricultural field that has been recently disturbed by disking. Due to its isolated nature and lack of clear cultural context, resource P-33-020929 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-020930 is a prehistoric isolate consisting of one white chert primary flake with an amber-colored cortex. The flake is located in an agricultural field that has been recently disked. Due to its isolated nature and lack of clear cultural context, resource P-33-020930 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-020931 is a prehistoric isolate that consists of one small ceramic grayware sherd. The sherd has a course, large grained, sandy temper, and the interior surface exhibits oxidization with black staining. Due to its isolated nature and lack of clear cultural context, resource P-33-020931 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-020932 is a historic-period isolate consisting of one .50-caliber bullet casing, possibly from military activities related to the World War II-era DTC. The head stamp has an "I" and "O," parallel along the sides of the head and a "2" centered at the bottom of the head. This specific head stamp was not included in the Field Manual for Documenting the DTC/C-AMA (Allen et al., 2011). The isolate is located on a north-facing slope leading down into McCoy Wash. Due to its isolated nature and lack of clear cultural context, resource P-33-020932 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-020933 is a prehistoric isolate consisting of one brown-green chert primary flake located on a terrace directly south of McCoy Wash. Due to its isolated nature and lack of clear cultural context, resource P-33-020933 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-020934 is a prehistoric isolate consisting of one quartzite secondary flake and a chert secondary flake. The flakes are located on a terrace that makes up the southern wall of McCoy Wash. To the north, portions of this terrace are now used as agricultural fields, but the immediate area surrounding the flakes appears undisturbed by agricultural development. Due to its isolated nature and lack of clear cultural context, resource P-33-020934 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-020935 is a prehistoric isolate consisting of tan-colored, fine-grained quartzite tested cobble and one quartzite primary flake. The tested cobble has approximately six flake scars. The artifacts are on the east-facing slope of a small tributary wash that feeds into McCoy Wash. Due to its isolated nature and lack of clear cultural context, resource P-33-020935 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-020936 is a prehistoric isolate consisting of a large secondary flake of a fine-grained greenish-beige chert. The flake has three flake scars on the ventral side and is broken on one edge. Due to its isolated nature and lack of clear cultural context, resource P-33-020936 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-020937 is a prehistoric isolate consisting of a chert core and flaked scraper. The core is white with amber inclusions and has several flake scars. The flaked tool is a translucent puce color and has four flake scars. Due to its isolated nature and lack of clear cultural context, resource P-33-020937 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-020938 is a prehistoric isolated artifact consisting of one chert core and one chert flaked tool. The lithics are in a field that was plowed but unplanted at the time of the survey. These artifacts are approximately 145 meters southeast of a large, prehistoric lithic quarry site (CA-RIV-2846). Due to its isolated nature and lack of clear cultural context, resource P-33-020938 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-020939 is a prehistoric isolate consisting of one secondary flake of a brownish gray chert. The flake is located in an agricultural field that has been recently disked. Due to its isolated nature and lack of clear cultural context, resource P-33-020939 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-020940 is a prehistoric isolate consisting of one chert primary flake, located in an agricultural field that has been recently disked. Due to its isolated nature and lack of clear cultural context, resource P-33-020940 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-020941 is a prehistoric isolate consisting of one chert flaked stone scraper tool. The artifact is located in an agricultural field that has been recently disked. Due to its isolated nature and lack of clear cultural context, resource P-33-020941 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-020942 is a historic-period archaeological site consisting of structural and domestic debris. The site is in poor condition with impacts from recent disking and the pushing of debris into piles. The piles consist of large chunks of concrete rubble, fragments of clay sewer pipe, drywall, brick, window glass, and milled lumber. The domestic artifacts consist of sanitary cans and can fragments, and clear, cobalt, and aqua glass fragments from jars and bottles. The dates of manufacture for the bottles range between the 1930s and the 1960s. While Resource P-33-020942 is near the former BAAB, which was decommissioned in 1944, none of the artifacts are clearly military-related. The resource has not been evaluated for CRHR- or NRHP-eligibility. However, the Project has been designed to avoid all ground-disturbing activities within 100 feet of the resource.

Resource P-33-020943 is a small historic-period archaeological site that consists of a can and glass scatter within and adjacent to a shallow ephemeral wash. The cans are primarily sanitary cans. Four of the cans are strung on a loop of baling wire. Similar strings of cans filled with rocks were once widely used in sheepherding and are called "Shepherds' Bells". There is one complete bottle manufactured between 1950 and the late 1960s. The site is in poor condition with impacts from disking and seasonal flooding. The resource has not been evaluated for CRHR- or NRHP-eligibility. However, the Project has been designed to avoid all ground-disturbing activities within 100 feet of the resource.

Resource P-33-020944 is a small historic-period archaeological site consisting of a refuse scatter in an agricultural field. Artifacts include one tobacco tin, a few cans and can fragments, and small fragments of indeterminate metal. The diagnostic cans were manufactured between 1931 and 1948. The site is in fair condition. The resource has not been evaluated for CRHR- or NRHP-eligibility. However, the Project has been designed to avoid all ground-disturbing activities within 100 feet of the resource.

Resource 33-020945 is a multicomponent archaeological site. The prehistoric component consists of two concentrations of prehistoric Black Mesa Buff pottery sherds that appear to come from at least two separate vessels, and lithic debitage of chert and quartzite. The historic-period component consists primarily of domestic refuse, including whiteware; a crockery fragment; a mother of pearl button; fragments of butchered animal bones; and clear, amber, aqua, and amethyst glass fragments. The site is located within a recently disked agricultural field near a pebble terrace at the base of the McCoy Mountains. The site has been disturbed mechanically by pushing the soils into a series of berms. The site is within an area that has been subjected to both military and agricultural activities during the past 75 years. The extent of previous disturbance from long-term agricultural use and the construction of berms have resulted in the loss of integrity of the site. The resource has not been evaluated for CRHR- or NRHP-eligibility. However, the Project has been designed to avoid all ground-disturbing activities within 100 feet of the resource.

Resource P-33-020946 is a multicomponent archaeological site located in an agricultural field that has been disturbed by long-term farming and recent disking. The historic-period component consists of fragments of clear and amber glass, cans, and metal debris. The prehistoric component consist of a concentration of fire affected rock, pottery sherds, and flakes. The prehistoric pottery and lithics are typical of other prehistoric sites on the pebble terraces at the base of the McCoy Mountains. Fire-affected rock on the surface is sometimes an indication that a former hearth, roasting pit, or other cooking or heating feature exists beneath the surface. The concentration of fire affected rock in conjunction with both ceramic and lithic material may represent a short-term camp. Despite the surface disturbance, the presence of fire affected rock indicates that subsurface deposits may be likely to yield important scientific data. The resource has not been evaluated for CRHR- or NRHP-eligibility. However, the Project has been designed to avoid all ground-disturbing activities within 100 feet of the resource. Note: The existing unpaved 9th Avenue runs east-west immediately north of the site. Though the road is not in the site itself, it does fall within 100 feet of the site.

Resource P-33-020947 is a multicomponent archaeological site located near McCoy Wash. The historic-period component consists of the remains of a demolished pump house, railroad ties, construction debris, and a wide variety of domestic refuse. The remnants of the pump house include five rectangular concrete footings and pieces of concrete. Numerous concrete sewer pipe fragments and pump machinery parts are in the easternmost portion of the site. Diagnostic artifacts at the site date from the mid-1950s to the present. Other than the pump house remnants, materials appear to have been dumped on site from other locations and could at least partially be the result of modern construction activities off site. The prehistoric component is found in the southern portion of the site and consists of a small concentration of lithic material. Artifacts include 10 flakes, several cores, and tested cobbles of quartzite and chert. The prehistoric component is in poor condition with impacts from refuse dumping activities. The resource has not been evaluated for CRHR- or NRHP-eligibility. However, the Project has been designed to avoid all ground-disturbing activities within 100 feet of the resource.

Resource P-33-020948 is a prehistoric archaeological site consisting of an artifact scatter near the base of a pebble terrace. Artifacts noted include more than 20 pottery sherds, likely representing a single vessel, and lithic debitage. The site condition is poor due to past agricultural activities. Although only surface artifacts were noted, the artifacts include both lithic and ceramic material, an indication of short-term habitation rather than of a single very brief activity. The proximity of the site to the pebble terraces, where trails were common and lithic raw materials could be found, and the evidence for multiple activities, indicate that an intact subsurface, if present, may have potential to yield scientific data about short-term habitation sites. The resource has not been evaluated for CRHR- or NRHP-eligibility. However, the Project has been designed to avoid all ground-disturbing activities within 100 feet of the resource.

Resource P-33-020949 is a prehistoric archaeological site consisting of a ceramic scatter located in an agricultural field that had been recently disked. Artifacts noted include over 20 sherds of pottery from at least two separate vessels. The site area has been utilized as an agricultural field and for military training activities during the past 75 years. As a result of these past land uses, the site is in poor condition. Although only surface artifacts were noted, the artifacts are close to the pebble terraces and McCoy Wash. The presence of more than one vessel in the ceramic assemblage suggests that the site may have been a short-term habitation. Despite the surface disturbance resulting from farming, this indicates that an intact subsurface (below the plowzone) archaeological deposit, if present, may have potential to yield important scientific data related to prehistoric domestic activities. The resource has not been evaluated for CRHR- or NRHP-eligibility. However, the Project has been designed to avoid all ground-disturbing activities within 100 feet of the resource.

Resource P-33-020950 is a prehistoric archaeological site consisting of a ceramic scatter located within a dirt road in McCoy Wash. The site has been disturbed by alluvial and vehicular activity, resulting in a loss of integrity. Alluvial and vehicular activity has resulted in ground disturbance at the site. The resource has not been evaluated for CRHR- or NRHP-eligibility. However, the Project has been designed to avoid all ground-disturbing activities within 100 feet of the resource.

Resource P-33-020951 is a prehistoric archaeological site consisting of a lithic scatter overlooking McCoy Wash. The majority of the artifacts are chert or quartzite flakes from lithic core reduction. Seasonal flooding and erosion have impacted the site's condition. The resource has not been evaluated for CRHR- or NRHP-eligibility. However, the Project has been designed to avoid all ground-disturbing activities within 100 feet of the resource.

Gen-Tie Line

Resource P-33-012532 is the Niland–Blythe 161 kV Transmission Line, which consists of a wooden, H-frame structures that run between the Niland substation in Imperial County and the Blythe substation in Riverside County. In 2011, POWER archaeologists documented a 2.5-mile segment of the line located within the gen-tie line corridor. The resource was found to be in good condition. The resource has been previously evaluated as not eligible for listing in the CRHR (CEC and WAPA, 2000), and is not considered a historical resource under CEQA.

Resource P-33-014083 is the Parker-Headgate Rock–Blythe 161 kV Transmission Line, which consists of wooden, H-frame structures located along a 64.4-miles span. In 2011, POWER archaeologists documented a 1.9-mile segment of the transmission line located within the gen-tie line corridor. The transmission line was found to be in good condition. Resource P-33-014083 has been previously evaluated as not eligible for listing in the CRHR (CEC and WAPA, 2000) and is not considered to be a historical resource under CEQA.

Resource P-33-019770 is a multicomponent isolate originally recorded in 2010 by Applied EarthWorks as consisting of one chert flake and one hole-in-top evaporated milk can. Due to its isolated nature and lack of clear cultural context, resource P-33-019770 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-021136 is a prehistoric isolate consisting of three prehistoric ceramic sherds. All of the sherds are body fragments with a grayish tan exterior, a red interior and a very coarse temper. Due to its isolated nature and lack of clear cultural context, resource P-33-021136 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-33-021137 is a historic-period isolate consisting of three historic cans, all of which are key-opened. Two of the cans are crushed and one has "EST A, 12 42" embossed on the lid. The cans are located within a small ephemeral drainage. Due to its isolated nature and lack of clear cultural context, resource P-33-0201137 is not eligible for listing in the CRHR and does not qualify as a historical resource or unique archaeological resource under CEQA.

3.5.4 Applicable Best Management Practices

As part of the Project, the following applicable BMP would minimize the environmental impacts to cultural and paleontological resources. The BMP is detailed below (see also Table 2-4 in *Chapter 2*) and is further referenced (by number) within the impact discussion.

BMP-14 **Travel and traffic.** Vehicular traffic on site shall be confined to existing or designated travel routes and designated work areas. Access to the construction site and staging areas shall be limited to authorized vehicles and only through the designated roads. The extent of habitat disturbance during construction shall be reduced by keeping vehicles on access roads and minimizing foot and vehicle traffic through undisturbed areas. Travel shall be limited to stabilized roads. Road maintenance activities shall avoid blading existing forbs and grasses in ditches and adjacent to roads. Abandoned roads and roads no longer needed shall be subsoiled to increase infiltration and reduce soil compaction, then recontoured and revegetated.

Construction traffic shall avoid unpaved surfaces to the extent practical (to reduce the risk of compaction) and reduce speed to lessen fugitive dust emissions. On unpaved or unstabilized surfaces within the construction site, speed limits (e.g., 20 mph) shall be posted with visible signs and enforced to minimize airborne fugitive dust. Project vehicle speeds shall be limited in areas occupied by special-status animal species. Traffic shall stop to allow wildlife to cross roads. Shuttle vans or carpooling shall be used where feasible to reduce the amount of traffic on access roads. Workers shall be trained to comply with the speed limit, use good engineering practices, minimize the drop height of materials, and minimize the number and extent of disturbed areas. The Project developer shall enforce these requirements.

3.5.5 CEQA Significance Criteria

For the purposes of this EIR and consistent with Appendix G of the *CEQA Guidelines*, the Project is considered to have a significant impact if it would result in any of the following:

- A substantial adverse change in the significance of a historical resource as defined in § 15064.5 (see Impact CUL-1);
- A substantial adverse change in the significance of an archaeological resource as defined in § 15064.5 (see Impact CUL-1);
- Disturbance of any human remains, including those interred outside of formal cemeteries (see Impact CUL-2).

CEQA provides that a project may cause a significant environmental effect where the project could result in a substantial adverse change in the significance of a historical resource (Public Resources Code, Section 21084.1). *CEQA Guidelines* Section 15064.5 defines a "substantial adverse change" in the significance of a historical resource to mean physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be "materially impaired" (*CEQA Guidelines*, Section 15064.5[b][1]). Actions that would materially impair the significance of a historical resource are any actions that would demolish or adversely alter those physical characteristics of a historical resource that convey its historical significance and qualify it for inclusion in the CRHR or in a local register or survey that meet the requirements of PRC Sections 5020.1(k) and 5024.1(g).

The following additional significance criteria from the County of Riverside's Environmental Assessment Form are used in the analysis. A project could have potentially significant impacts if it would:

- Alter or destroy an historic site (see Impact CUL-3).
- Alter or destroy an archaeological site (see Impact CUL-3).
- Restrict existing religious or sacred uses within the potential impact area (see Effects Found Not to Be Significant).

Effects Found Not to Be Significant

The Project is expected to have no impact involving the following significance criterion.

- Restrict existing religious or sacred uses within the potential impact area.

Comment letters on the NOP from the Morongo Band of Mission Indians and the Soboba Band of Luiseño Indians indicate that the Project vicinity is located within their traditional use areas. The Soboba Band of Luiseño Indians indicated in their comment letter that a village site was located nearby, and that the Project vicinity is generally sensitive to the Soboba people. However, these comment letters, the SLF search conducted by the NAHC, and the letters received from Native American groups did not indicate the presence of specific Native American sacred sites within the Project area, nor do they indicate that there are any existing religious or sacred uses within the Project area. Additionally, consultation with the local historical society did not indicate the presence of areas of known religious or sacred uses. Therefore, no impacts are anticipated from the Project with respect to restricting existing religious or sacred uses within the Project area.

3.5.6 Impact Analysis

Impact CUL-1: The Project could cause a substantial adverse change in the significance of a historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5. This impact would be *less than significant with mitigation incorporated.*

Ground-disturbing construction activities associated with the development of a the Project could have a direct impact on historical resources and unique archaeological resources by damaging and displacing artifacts, diminishing site integrity and altering the characteristics that make the resources significant.

Indirect effects are caused by the action and are later in time or farther removed in distance. Indirect impacts to archaeological resources may also result from increased erosion due to site clearance and preparation, or from inadvertent damage or outright vandalism to exposed resource components due to improved accessibility. For significant historical resources—including built environment, archaeological, and tribal resources—for which setting, feeling and association are aspects of integrity that are critical to conveying their historical significance, indirect impacts could include alteration of the characteristics of such resources that convey their historical significance.

The cultural resources surveys resulted in the identification of one archaeological site (P-33-002846) previously determined CRHR- and NRHP-eligible, thus considered a historical resource under CEQA. Ten other cultural resources (P-33-020942, P-33-020943, P-33-020944, P-33-020945, P-33-020946, P-33-020947, P-33-020948, P-33-020949, P-33-020950, P-33-020951) identified in the Project area have not been evaluated for CRHR-eligibility and, therefore, could qualify as historical resources and/or unique archaeological resources under CEQA. Project design would avoid ground-disturbing activities at or within 100 feet of all 11 of the cultural resources in the Project area that have either been previously determined CRHR-eligible (i.e., qualify as a historical resource under CEQA) or remain unevaluated for CRHR-eligibility (i.e., may qualify as a historical resource under CEQA).

The presence of prehistoric archaeological sites in the Project area is suggestive that prehistoric subsurface deposits not evident during a surface survey may be present. In addition, given the number of land patents indicated by the BLM GLO patent records review, the Project area should be considered moderately sensitive for the subsurface presence of historic-period archaeological resources associated with homesteading including stone or concrete footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. Additionally, the Project is located approximately 0.50 miles from the BAAB Historic District and may have the potential for additional subsurface cultural resources associated with the district and its World War II period of significance between the years 1942-1943. These resources may be contributing archaeological resources for the BAAB that was a part of a larger regional historic landscape associated with World War II military training activities and facilities.

Due to the potential described above, all Project ground-disturbing activities have the potential to impact previously unidentified buried historic-period and prehistoric archaeological resources. If any such resources are present in the Project area and qualify as historical resources or unique archaeological resources, any impacts to the resources resulting from the Project could be significant.

Implementation of Mitigation Measures CUL-1 through CUL-4, in conjunction with BMP-14, which restricts vehicle traffic to designated roadways, would reduce direct impacts to historical resources and unique archaeological resources to less than significant. Mitigation Measures CUL-1 and CUL-2, which require tribal involvement and tribal monitoring of ground-disturbing construction activity, were developed in part as an outcome of Native American consultation efforts, where several tribes stressed the sensitivity of the area, and at least one tribe, the Agua Caliente Band of Cahuilla Indians, recommended tribal monitoring during construction.

Project grading could potentially temporarily alter naturally occurring drainage patterns and result in soil erosion, sedimentation, long-term siltation, and increased stormwater runoff, which could result in indirect impacts to historical resources and/or unique archaeological resources. Implementation of Mitigation Measures HYD-1 through HYD-4, in conjunction with BMP-1, BMP-2, BMP-11, and BMP-13, would minimize ground disturbance from road construction at streams, washes, and irrigation channels as well as reduce potential for erosion and sedimentation from stormwater draining from the substations. This would reduce indirect impacts to historical resources and unique archaeological resources as a result of erosion to less than significant.

Mitigation Measures

Mitigation Measures CUL-1 through CUL-4 and HYD-1 through HYD-4 would mitigate Impact CUL-1.

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures CUL-1 through CUL-4, and HYD-1 through HYD-4.

Impact CUL-2: Implementation of the proposed Project could result in the disturbance of human remains. This impact would be *less than significant with mitigation incorporated*.

No known human remains exist within the Project area. However, since the nature of the proposed Project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb previously unknown human remains. Mitigation Measure CUL-5 would ensure that impacts to human remains would be less than significant.

Mitigation Measure

Mitigation Measure CUL-5 would mitigate Impact CUL-2.

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measure CUL-5.

Impact CUL-3: Implementation of the proposed Project could result in the alteration or destruction of an historic or archaeological site. This impact would be *less than significant with mitigation incorporated*.

As discussed above in Impact CUL-1, Project-related activities could significantly impact historical resources and unique archaeological resources. Implementation of Mitigation Measures CUL-1 through CUL-4 and HYD-1 through HYD-4 would reduce the impacts to less than significant.

Mitigation Measure

Implementation of Mitigation Measures CUL-1 through CUL-4 and HYD-1 through HYD-4 would mitigate Impact CUL-3.

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures CUL-1 through CUL-4 and HYD-1 through HYD-4.

3.5.7 Cumulative Impacts

The geographic area of analysis for cultural resources includes the Palo Verde Valley and Palo Verde Mesa, in which the Project area is located. This geographic scope of analysis is appropriate because the cultural resources within this radius are expected to be similar to those that occur on the Project sites because of their proximity; similar environments, landforms, and hydrology would result in similar land-use—and thus, site types. This is a large enough area to encompass any effects of the Project on cultural resources that may combine with similar effects caused by

other projects, and provides a reasonable context wherein cumulative actions could affect cultural resources.

Cultural resources are non-renewable; any loss or physical damage to these resources is permanent. They would be subject to direct impacts primarily during Project construction; however, impacts could occur during any ground-disturbing activities during operation and maintenance and decommissioning. For purposes of the cumulative analysis, the temporal impact scope is the life of the Project.

The existing environmental conditions for the geographic area of analysis are described above in *Section 3.5.1 (Environmental Setting)*. As described in Chapter 2, *Project Description*, multiple projects, including several utility-scale solar and energy production facilities, are proposed throughout the Palo Verde Valley and Palo Verde Mesa. Past, present and future large-scale solar and energy projects within the geographic area of analysis include the Blythe Airport Solar I, Blythe Energy Project II, Blythe Mesa Solar Project, Blythe Solar Power Project, McCoy Solar Energy Project, Gypsum Solar Project, Desert Quartzite Solar, McCoy Soleil Solar, Devers Palo Verde Transmission Line, and Desert Southwest Transmission line.

Information regarding the number of resources impacted by past, present, and future projects in the geographic area of analysis has been compiled where data is available. Specific data or other information about the impacts of the Devers-Palo Verde Transmission Line, Blythe Mesa Solar Project, Blythe Solar Power Project, Blythe Energy Project II, and McCoy Solar Energy Project to known cultural resources is available; however, information for the other projects is not available.

The Devers-Palo Verde 2 Transmission Line Project would directly impact 63 cultural resources and one ethnographic resource (BLM and CEC, 2006). The McCoy Solar Energy Project would directly impact 101 archaeological sites (the dates of which are not specified in the Final EIS for the project) (BLM, 2012). The Blythe Solar Power Project would directly impact a total of 99 known archaeological sites and would indirectly impact four built environment resources and a number of other cultural resources (BLM, 2014). The Blythe Energy II Project impacted six historic-period archaeological resources and four historic-period built environment resources (CEC and WAPA, 2005). The Blythe Mesa Solar Project would directly impact 34 cultural resources (Riverside County and BLM, 2015). Of these resources that could be impacted by these projects, it is not known how many would qualify as historical resources or unique archaeological resources under CEQA.

The Palo Verde Valley and Palo Verde Mesa contain a significant archaeological and historical record that, in many cases, has not been well documented or recorded. As discussed above, there is the potential for ongoing and future development projects in the vicinity to disturb landscapes that may contain known or unknown cultural resources. Many of these resources could provide information that would contribute to the understanding of regional research themes, and could qualify as historical resources or unique archaeological resources. While it is not possible based on available data to fully quantify how many cultural resources have been or could be impacted by past, present, and reasonably foreseeable projects, it is likely that the cumulative loss of

cultural resources as a result of these projects could result in a loss of important information necessary to a full understanding of regional history. In addition, past, present, and reasonably foreseeable projects within the geographic area of analysis could impact prehistoric and historic landscapes and resources of special importance to Native American groups.

Direct impacts from past, present, and reasonably foreseeable projects in the geographic area of analysis could, when taken together in combination, create a cumulatively significant impact on historical resources, unique archaeological resources, and human remains. Potential construction impacts of the Project to known and unknown historical resources, unique archaeological resources, and human remains could contribute to this direct cumulative impact. However, pursuant to Mitigation Measure CUL-2, the Project will avoid known eligible resources. Accordingly, the Project's incremental impact would be limited to whatever areas within its 3,250 acres of new solar panels and supporting infrastructure, and 14.5 miles of new gen-tie line, contain currently unknown resources. This represents a minor contribution to the cumulative impact. In addition, mitigation measures are included in this EIR to reduce potentially significant Project impacts to cultural resources during construction of the Project. Mitigation Measures CUL-1 through CUL-4 would mitigate direct impacts to known and unknown buried historical and unique archaeological resources to a less than significant level. These measures would also ensure that the historical information associated with discovery of any previously unknown significant finds is appropriately documented and made available to contribute to the understanding of historical research themes. The remaining, less-than-significant impacts are only potential, in that they arise only if unknown resources are discovered. The remaining impacts are therefore minor and would not contribute considerably to significant cumulative impacts.

In addition to direct physical impacts, construction of the large utility-scale solar and energy projects proposed throughout this region would result in substantial changes in the setting of the areas in which they are constructed, which would constitute an indirect cumulative impact to historical resources. For significant historical resources—including built environment, archaeological, and tribal resources—for which setting, feeling and association are aspects of integrity that are critical to conveying the historical significance of the resource, the construction of thousands of acres of industrial and solar facilities could adversely affect the setting, feeling, or association of such resources, which would adversely alter those characteristics of such resources that convey their historical significance, thus constituting a substantial adverse change in their significance. There are many historical resources of this kind, such as prehistoric trails and rock art, within the Palo Verde Valley. Such indirect impacts from past, present, and reasonably foreseeable projects in the geographic area of analysis would, when taken together in combination, create a cumulatively significant impact on historical resources.

Past, present, and reasonably foreseeable projects would affect approximately 25,000 acres within the geographic area of analysis. When added to the cumulative scenario, the effects of the PVMSP would contribute incrementally to these cumulative impacts on historical resources. This incremental contribution to direct and indirect cumulative impacts to historical resources is relatively minor and would not be cumulatively considerable.

Mitigation Measures

Implement Mitigation Measures CUL-1 through CUL-4.

Significance after Mitigation

The Project's contribution to significant cumulative impacts to cultural resources would not be cumulatively considerable.

3.5.8 Mitigation Measures

CUL-1 Prior to any ground disturbances within the Project area, the Applicant shall, for a period of at least 60 days, make a good faith effort to enter into a contract with and retain monitors designated by Tribal representatives. These monitors shall be known as the Tribal Participants for this Project. The developer shall notify the appropriate Tribe of all new phases of development. The Tribal Participants shall be required on-site during all construction-related ground disturbing activities. The developer shall submit the signed contract between the appropriate Tribe and the developer. The Project Archaeologist shall include in the report any concerns or comments the Tribal Participant has regarding the Project and shall include as an appendix any written correspondence or reports prepared by the Tribal Participant.

CUL-2 The County advocates avoidance as the preferred choice, and development of a discovery plan (see CUL-3) shall occur prior to Project construction. If, during ground disturbance activities associated with construction, operation and maintenance, or decommissioning, potentially significant archaeological sites are discovered that were not identified and evaluated in the archaeological survey reports or EIR conducted prior to Project approval, the following procedures shall be followed.

1. All ground disturbance activities within 100 feet of the discovered archaeological resource shall be halted until a meeting is convened between the developer, the Project Archaeologist, the Tribal Participants, and the County to discuss the significance of the find.

2. At the meeting, the significance of the discoveries shall be discussed in consultation with the Tribal Participants and the Project Archaeologist. The County shall determine the appropriate mitigation (documentation, evaluation, recovery, avoidance, etc.) by implementing CEQA Guidelines Section 15126.4(b) regarding mitigation related to impacts on historical resources and CEQA Guidelines Section 15064.5(c) and 21083.2(g) regarding archaeological resources. Mitigation shall comply with Mitigation Measure CUL-3.

3. Further ground disturbance shall not resume within the area of the discovery until a meeting is convened with the aforementioned parties and a decision is made with the concurrence of the County as to the appropriate preservation or mitigation measures. The Applicant shall comply with the determinations of the County.

CUL-3 Prior to obtaining the Project-related grading permit from the County, the Applicant shall have the Project Archaeologist prepare and submit for approval a Cultural Resources Management Plan (CRMP). The CRMP shall be submitted to the County for approval. The CRMP shall map all known significant or unevaluated cultural resources within the Project area, as described in this EIR. The CRMP shall detail how the one CRHR-eligible resource in the Project area (P-33-002846) and ten cultural resources (P-33-020942, P-33-020943, P-33-020944, P-33-020945, P-33-020946, P-33-020947, P-33-020948, P-33-020949, P-33-020950, P-33-020951) in the Project area that have not been evaluated for CRHR-eligibility are avoided by Project design, and how these 11 resources would be marked and protected as Environmentally Sensitive Areas during construction. The CRMP shall also map additional areas that are considered to be of high sensitivity for discovery of buried significant cultural resources, including burials, cremations, or sacred features. The CRMMP shall include protocol for collection and disposition of recorded archaeological isolates prior to Project construction, through coordination between the Applicant, County, and Tribal Participants. The CRMP shall detail provisions for monitoring construction in these high-sensitivity areas. For all post-review discoveries, the CRMP shall detail the methods, consultation procedures, and timelines for implementing Mitigation Measures CUL-2 and CUL-5, including procedures for halting construction, making appropriate notifications to agencies, officials, and Native American tribes, and assessing CRHR-eligibility. The CRMP shall specify what actions shall be undertaken if, as a result of the process required by the CRMP, it is determined that the Project would significantly impact previously unknown cultural resources. The actions to be taken shall comply with CEQA Guidelines Section 15126.4(b).

The CRMP shall be presented to all construction personnel, with Tribal Participants in attendance, in the form of a worker education program by the Project Archaeologist prior to commencement of groundbreaking. During subsequent safety meetings on the job site, the Project Archaeologist and/or their qualified representative shall inform all new construction personnel of the cultural resources issues associated with the Project.

CUL-4 Prior to the final inspection of the first building permit, the Applicant shall prompt the Project Archaeologist to submit one (1) wet-signed hard copy and one (1) CD of a Cultural Resources Monitoring Report (CRMR) that complies with the current County Planning Department's requirements for Phase IV Cultural Resource Monitoring Reports. The report shall include documentation of the required cultural/historical sensitivity training for the construction staff held during the pre-grade meeting, which shall include the County's attendance. The County shall review the report to determine adequate mitigation compliance. The accepted report shall be submitted to the County, California Historical Resources Information System Eastern Information Center, the Patton Memorial Museum, and Tribal Participants.

CUL-5 If human remains are encountered during the course of construction, work in the immediate area shall be halted, a 100-foot diameter buffer established, and arrangements made to protect the remains in place until their disposition has been arranged according to this section. The treatment of human remains and associated and unassociated funerary objects discovered during any ground-disturbing activity shall comply with applicable State laws. This shall include immediate notification of the Riverside County coroner and, in the event of the coroner's determination that the human remains are Native American, notification of the California State Native American Heritage Commission (NAHC), who shall appoint a Most Likely Descendant (MLD) (California Public Resources Code [PRC] Section 5097.98). The Project Archaeologist, Applicant, County, and MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of human remains and associated and unassociated funerary objects (CEQA Guidelines Section 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated and unassociated funerary objects. The PRC allows 48 hours to reach agreement on these matters. If the MLD and the other parties do not agree on the reburial method, PRC Section 5097.98(b) shall be followed: "the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance." Should any dispute arise, the County will request that the NAHC act to mediate the dispute. The site of any reburial of Native American human remains or cultural artifacts shall remain confidential, shall not be disclosed, and shall not be governed by public disclosure requirements of the California Public Records Act (California Government Code Section 6250). No construction activities will be allowed within 100 feet of the discovery site of human remains until a Notice to Proceed is provided by the County.

3.6 Geology, Soils, and Mineral Resources

This section describes the existing regional and local geology, soil conditions, and mineral resources, as well as regulatory framework in regards to geology, soils and mineral resources. This section also identifies seismic hazards that could potentially affect proposed improvements associated with the Project. The Project area relevant to the analysis of geology, soils, minerals and geologic hazards is the physical footprint of Project's construction, operation and maintenance, and decommissioning activities. The study area for faulting and seismic hazards includes the larger Southern California region, because distant faults can produce ground shaking and secondary seismic hazards at the Project area. The information in this section is based on the Geological Reconnaissance Evaluation: Palo Verde Mesa Solar Project, Blythe, California, prepared by Ninyo and Moore Geotechnical and Environmental Sciences Consultants, 2012 (provided in Appendix F of this Draft EIR).

3.6.1 Environmental Setting

Regional Geology

The Project site is located within the Colorado Desert Geomorphic Province in Riverside County, California. Within California, this geomorphic province encompasses an area that extends from the Colorado River on the east, the eastern Transverse Ranges on the north, the Mexican border on the south, and the Peninsular Ranges on the west. The Colorado Desert province is generally characterized by broad alluvial valleys separated by steep, discontinuous, sub-parallel mountain ranges that generally trend northwest-southeast.

Local Geology

Soils

According to the geotechnical study prepared for the proposed Project, the solar facility site and gen-tie line corridor are generally underlain by Quaternary age (up to 2.6 million years old) alluvium consisting of unconsolidated to weakly consolidated sand, silt, and gravel. Surficial deposits of eolian sand (windblown sand), gravels, and minor fill are also present across portions of the Project area. Generalized descriptions of the units encountered are included below and shown on **Figure 3.6-1**.

- Holocene-age (up to 11,000 years old) alluvium associated with modern washes (designated Qw) has been mapped within the northeast and central portions of the Project area. These deposits are the result of erosion, transport, and deposition of sediments caused by winter storm systems or intense summer thunderstorms. The alluvial materials are generally expected to consist of fine to coarse sand with scattered to abundant gravel to cobble-size clasts.
- Holocene-age alluvial-fan and alluvial-valley deposits (designated Qa_6) have been mapped under the western most portion of the Project area. These deposits are characterized by sand, pebbly sand, sandy gravel, and occasional eolian sand deposits. These sediments lack desert varnish, a dark coating on exposed rock surfaces in arid environments.

- Pleistocene-age alluvial deposits of the Palo Verde Mesa (designated Qpv) have been mapped on the majority of the Project area. These deposits consist of generally loose to very dense, silty, fine to medium sand with interlayers of gravel.
- Pleistocene- and/or Pliocene-age alluvial deposits of the McCoy Wash Area (designated QTmw) have been mapped beneath the northwestern corner of the Project area. These deposits consist of generally loose to very dense, sandy, fine to coarse gravel with scattered cobbles.

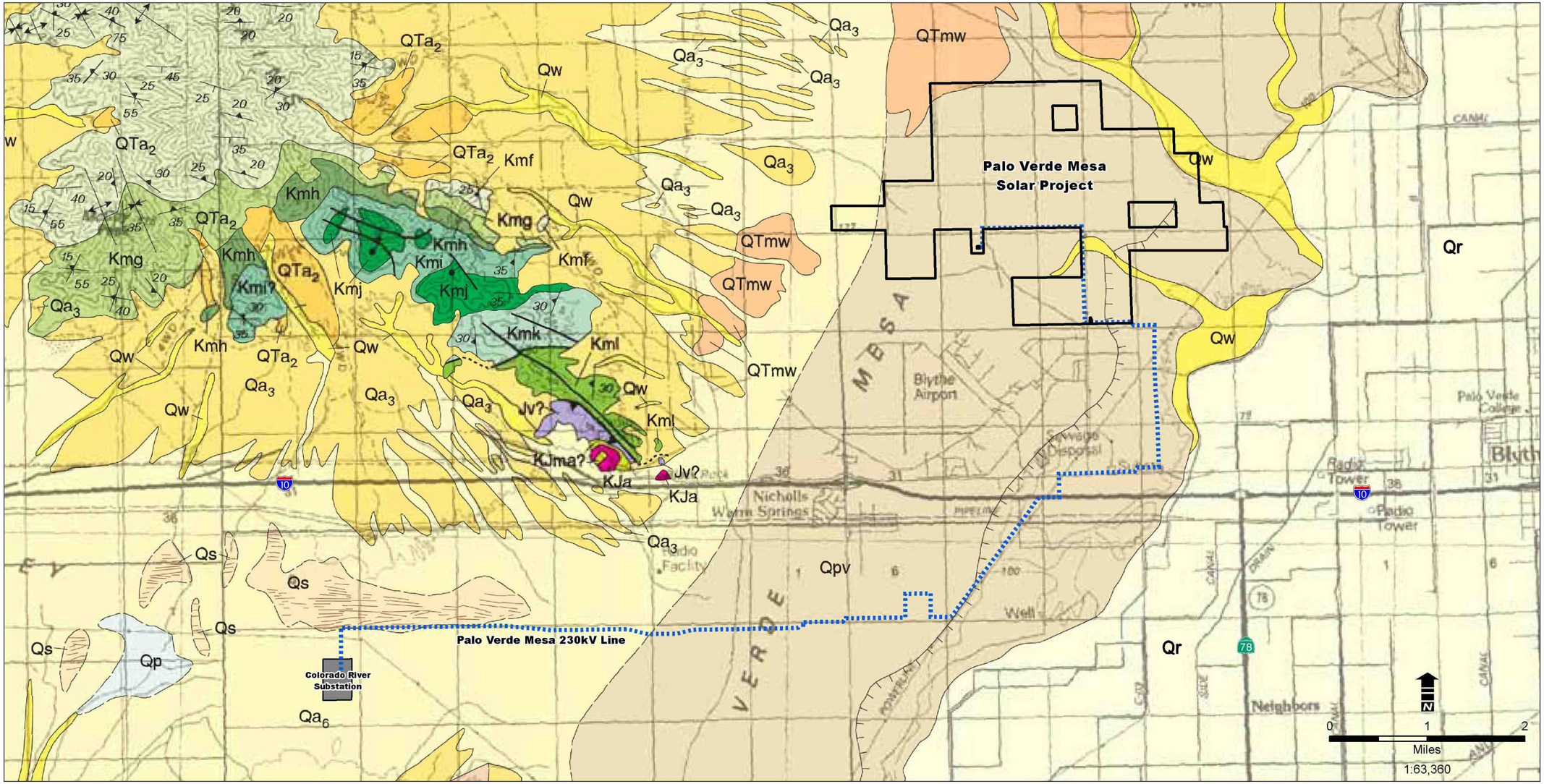
Portions of the Project area have been or are currently being utilized for agricultural purposes. It is expected that the upper one to two feet of soil in these areas have been disturbed as a result of these agricultural activities.

Minerals

Riverside County contains diverse mineral resources, which include extensive deposits of clay, limestone, iron, sand, and aggregates. Geologic factors restrict mining operations to relatively few locations where mineral deposits are feasible for extraction. Mineral Resource Zones (MRZs) within Riverside County are depicted on Figure OS-5, *Mineral Resources*, of the Riverside County General Plan (RCGP) Multipurpose Open Space Element (Riverside County, 2015). The Project area is not used for mineral production, nor is it under claim, lease, or permit for the production of locatable, leasable, or salable minerals or mineral materials. However, the Project area is underlain by sand and gravel, which potentially could represent a source of saleable minerals or mineral materials if there is a sufficient local demand for construction aggregate. However, the Project area and vicinity have been classified as Mineral Resource Zone 4 (MRZ-4) for mineral resources (areas of unknown mineral resource significance) and is not designated as being of regional or state-wide importance (Ninyo & Moore, 2012).

According to the geotechnical report prepared for the proposed Project, there are no past or present mines and no locatable mineral activity located on the Project area (Ninyo & Moore, 2012). Sand and gravel deposits are ubiquitous throughout the Quaternary geologic deposits in the vicinity of the Project area and the region. There are several past producers and one current producer of sand and gravel on the west side of the McCoy Wash, approximately five miles east of the Project area. In addition, there is one former producer of sand and gravel immediately to the east of the access road. None of the past or current producers of sand and gravel intersects the Project area.

According to review of the Mineral Resources Data System (MRDS) online database, metallic resources and occurrences (such as gold, silver, manganese, and copper) are restricted to the surrounding mountains, including the McCoy, Big Maria, and Mule Mountains, located outside of the Project area (USGS, 2011). Numerous land sections within the mountainous areas have active mining claims, and there are two sites listed in the MRDS as mineral producers. However, none of these resources occurs within the vicinity of the Project area and they are unlikely to be



- Project Area
- Palo Verde Mesa 230kV Line
- Colorado River Substation

- Qw Alluvium of Modern Washes (Holocene)
- Qr Alluvium of Modern Colorado Rive Flood Plain (Holocene)
- Qp Playa Lake Deposits (Holocene)
- Qs Eolian Sand (Holocene)
- Qa_6 Alluvial-fan and Alluvial-Valley Deposits Unit 6 (Holocene)
- Qa_3 Alluvial-fan and Alluvial-Valley Deposits Unit 3 (Holocene and Pleistocene)
- QTa_2 Alluvial-fan and Alluvial-Valley Deposits Unit 2 (Pleistoene to Miocene)
- Qpv Alluviul Deposits of Palo Verde Mesa (Pleistocene)
- QTmw Alluvial Deposits of the McCoy Wash Area (Pleistocene and/or Pliocene)

- KJa Bouse Formation Andesite (Cretaceous or Jurassic)
- Kml McCoy Mountains Formation Member L (Cretaceous)
- Kmj McCoy Mountains Formation Member J (Cretaceous)
- Kmi McCoy Mountains Formation Member I (Cretaceous)
- Kmh McCoy Mountains Formation Member H (Cretaceous)
- Kmg McCoy Mountains Formation Member G (Cretaceous)
- KJma McCoy Mountains Formation Member A (Cretaceous or Jurassic)
- Jv McCoy Mountains Formation Volcanic Rocks (Jurassic)

SOURCE: POWER Engineers

Figure 3.6-1
Site Geology

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found within the geologic units that underlie the Project area. According to the California DOC, there are no leasable minerals within the Project area. Further, the DOC indicates that there are no oil, gas, or geothermal resources present within the vicinity of the Project area (DOC, 2001).

Geologic Hazards

Faulting and Seismicity

The Project would be located in a seismically active region of Southern California. Based on data compiled by the California Geological Survey, there are no known active faults that intersect the Project area, nor is the site located within a State of California Earthquake Fault Zone, formerly known as an Alquist-Priolo Special Studies Zone. Specifically, the Project area is situated within the Sonoran zone, which is a relatively more stable tectonic region than areas further west. The California Geological Survey defines an active fault as one that has had surface displacement during the Holocene age (roughly the last 11,000 years). Potentially active faults are those that show evidence of surface displacement during the Quaternary age (roughly the last 2.6 million years) but for which evidence of Holocene movement has not been established. An inactive fault is one that has not shown evidence of surface displacement during the Quaternary age. The nearest faults to the Project site are inactive faults and located in the McCoy Mountains, approximately three miles west of the Project site and approximately two miles from the gen-tie line corridor. The inactive faults are illustrated on Figure 3.6-1, *Site Geology*. **Table 3.6-1** lists principal known active faults approximately 60 miles from the Project area, the approximate fault-to-site distances, and the maximum moment magnitudes[1] (Mmax).

TABLE 3.6-1
PRINCIPAL ACTIVE FAULTS

Fault	Approximate Fault-to-Site Distance (miles)	Maximum Moment Magnitude (Mmax)
Brawley Seismic Zone	61.8	6.4
Elmore Ranch	58.4	6.6
San Andreas (Coachella)	62.1	7.2

SOURCE: Ninyo & Moore, 2012.

Secondary Earthquake Hazards

Liquefaction

Liquefaction is a condition in which a saturated cohesion-less soil may lose shear strength because of a sudden increase in pore water pressure caused by an earthquake. This typically occurs near the surface in poorly consolidated, highly saturated, well-sorted, and finer-grained materials. The potential for liquefaction in strata deeper than approximately 50 feet is considered negligible due to the increased confining pressure and because geologic strata at this depth are generally too compacted to liquefy. Lateral spreading of the ground surface can occur within

1 The *moment magnitude scale* is used by seismologists to measure the size of earthquakes in terms of the energy released.

liquefiable beds during seismic events. Lateral spreading generally requires an abrupt change in slope; that is, a nearby steep hillside or deeply eroded stream bank. Other factors such as distance from the epicenter, magnitude of the seismic event, and thickness and depth of liquefiable layers also affect the amount of lateral spreading. *The RCGP*, Figure S-3, indicates the site is mapped within a zone described as "moderately susceptible" to liquefaction for areas with deep groundwater. However, according to the geotechnical report, due to the relatively dense nature of the underlying deposits that have been documented in the area and the lack of shallow groundwater, the potential for liquefaction and seismically induced settlement to occur at the solar facility site and gen-tie line corridor is considered low.

Subsidence and Settlement

Potential hazards in the study area include subsidence, settlement, and earthquake-induced settlement (discussed above). Subsidence of the land surface is a general process that can be attributed to natural phenomena, such as tectonic deformation, consolidation, hydrocompaction, collapse of underground cavities, oxidation of organic-rich soils, or rapid sedimentation, and also by the activities of man, such as the withdrawal of groundwater. Local subsidence or settlement may also occur when areas containing compressible soils are subjected to foundation or fill loads.

The Riverside County Land Information System (RCLIS) indicates the alluvial-filled basin sediments in the Palo Verde Mesa are susceptible to subsidence[2] (Riverside County, 2011). Regional ground subsidence is typically caused by petroleum or groundwater withdrawal that increases the weight per unit volume of the soil profile, which in turn increases the effective stress on the deeper soils. This results in consolidation or settlement of the underlying soils. Potential subsidence impacts are limited to groundwater drawdown. *The RCGP*, Figure S-7, designates the Project area as a "Susceptible Area" with regard to potential ground subsidence.

Expansive Soils

Expansion and contraction of expansive soils in response to changes in moisture content can cause movements that result in damage and/or distress to structures and equipment with shallow foundations. Issues with expansive soils occur near the ground surface where changes in moisture content typically occur. Often, grading, site preparations, and backfill operations associated with subsurface structures can eliminate the potential for expansion. The addition of moisture from irrigation, capillary tension, water line breaks, etc. causes the clay soils to collect water molecules in their structure, which in turn causes an increase in the overall volume of the soil. This increase in volume can correspond to movement of overlying structural improvements. Based on review of regional geologic maps and geologic reconnaissance, the deposits underlying the solar facility site and gen-tie corridor consist of granular alluvial deposits (sand and gravel). The potential for near-surface expansive soils to adversely affect proposed improvements at the solar facility site and gen-tie corridor is considered low.

[2] The Palo Verde Mesa is considered 'susceptible to subsidence' on an RCLIS susceptibility map. This indicates that the area contains suitable conditions for subsidence, not that it has or will occur.

Erosion

Erosion is a natural process whereby soil and highly weathered rock materials are worn away and transported to another area, most commonly by wind or water. Natural rates of erosion can vary depending on slope, soil type, and vegetative cover (regional erosion rates are also dependent on tectonics and changes in relative sea level). Soils containing high amounts of silt are typically more easily eroded, while coarse-grained (sand and gravel) soils are generally less susceptible to erosion. The Project site would be located in an area that is presently drained by sheet flow and desert washes (see Section 3.9, *Hydrology and Water Quality*, for additional information on surface water hydrology). Low-frequency, high-intensity monsoonal storms in the region can result in high rates of surface water runoff within the vicinity of the Project site. Natural rates of runoff from soils on the Project site are highly variable, ranging from low to very high. Based on review of the RCGP, Figure S-8, Wind Erosion Susceptibility Map, the Project area is considered highly susceptible to wind erosion.

Due to the dry climate and infrequent nature of precipitation events, wind is arguably the prevailing erosion process acting on the study area. Wind can move soil particles by three general processes: surface creep (rolling along the ground surface), saltation (a bouncing movement along the ground surface caused by particle collisions that help force a particle into the air for a brief time before it falls back to the ground), and suspension transport (particles lofted into the air and remaining suspended for more than a minute). Surface creep and saltation typically account for most soil mass movement associated with wind erosion, and normally involve larger sand-size soil particles. Suspension transport normally involves smaller silt and clay size soil particles.

Soil moisture conditions and surface conditions are important factors determining the vulnerability of an area to wind erosion. In desert areas, soil moisture levels are high only during and after rainfall or flash flood events. Consequently, soil moisture levels in desert areas are high enough to influence wind erosion processes for only brief intermittent periods. The surface features of greatest importance are non-erodible surface material, vegetation cover, mineralized soil crusts, and biological soil crusts. The most common types of non-erodible surface materials in deserts include scattered rocks and boulders, rock formation outcrops, and desert pavement. Desert pavements are areas with rock fragments of pebble to cobble size that cover an underlying layer of sand, silt, or clay. Desert pavement areas typically have little or no vegetation cover. The extent to which desert pavement reduces wind erosion and resulting fugitive dust depends on the density of the rock fragments covering the underlying soil.

Soil erosion can become problematic when human intervention causes rapid soil loss and the development of erosional features (such as incised channels, rills, and gullies) that undermine roads, buildings, or utilities. Vegetation clearing and earth-moving reduces soil structure and cohesion, resulting in abnormally high rates of erosion, referred to as *accelerated erosion.* This typically occurs during construction activity involving grading and soil moving activities (i.e., presence of soil stockpiles, earthen berms, etc.) that loosen soils and makes them more susceptible to wind and water erosion. Further, the operation of associated heavy machinery and vehicles over access roads, staging areas, and work areas can compact soils and decrease their capacity to absorb runoff, resulting in rills, gullies, and excessive sediment transport.

3.6.2 Regulatory Setting

State

California Building Code

The California Building Code (CBC) has been codified in the California Code of Regulations (CCR) as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The 2013 CBC is based on the 2012 International Building Code (IBC) published by the International Code Conference. In addition, the CBC contains necessary California amendments, which are based on reference standards obtained from various technical committees and organizations such as the American Society of Civil Engineers (ASCE), the American Institute of Steel Construction (AISC), and the American Concrete Institute (ACI). ASCE Minimum Design Standards 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (flood, snow, wind, etc.) for inclusion into building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients which are used to determine a Seismic Design Category (SDC) for a project as described in Chapter 16 of the CBC. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC in accordance with Chapter 16 of the CBC. Chapter 16, Section 1613 provides earthquake loading specifications for every structure, and portion thereof, including nonstructural components that are permanently attached to structures and their supports and attachments, which shall be designed and constructed to resist the effects of earthquake motions in accordance with ASCE 7-10. Chapter 18 also describes analysis of expansive soils (1803.5.3) and the determination of the depth to groundwater table. For Seismic Design Categories D, E, and F, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. It also addresses mitigation measures to be considered in structural design, which may include ground stabilization, selecting appropriate foundation type and depths, selecting appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions.

Local

Riverside County Code of Ordinances

Title 15 of the Riverside County Code of Ordinances regulates buildings and construction by adopting by reference the CBC, in addition to County-specific amendments, which in all cases are equal to or more stringent than the provisions of the CBC. The County requires project applicants to obtain a grading permit from the building official prior to conducting grading or clearing of any kind. In addition, County Ordinance 457.98 requires a grading permit for any exploratory excavations consisting of 1,000 cubic yards or greater in any one location of one acre or more. This applies to all trenching, borings, and any access road clearing/construction that may be necessary.

Riverside County General Plan – Palo Verde Valley Area Plan

Portions of the Palo Verde Valley planning area may be subject to seismic hazards. Threats from seismic events include ground shaking, fault rupture, liquefaction, and landslides. In the Palo Verde Valley planning area, liquefaction poses the most significant threat from a seismic event. Generally, the use of building techniques and practical avoidance measures help mitigate potentially dangerous seismic events. The Palo Verde Valley Area Plan provides the policy related to seismic hazards below.

PVVAP 15.1. Protect life and property from seismic related incidents through adherence to the Seismic Hazards section of the General Plan Safety Element.

City of Blythe General Plan

The City of Blythe General Plan Safety Element addresses hazards and disasters, and sets forth the policy basis for the City's response to potential seismic hazards. Applicable policies related to seismic hazards are included in the City of Blythe General Plan 2025 and are provided below.

Safety Element

Policy 5: Maintain and enforce appropriate building standards and codes to avoid and/or reduce all risks associated with geologic constraints.

Policy 6: Ensure through available engineering solutions that buildings designed for human habitation will not be adversely impacted by geological hazards.

Policy 7: Educate the public about potential geologic hazards in Blythe and maintain emergency response policies.

3.6.3 Methodology for Analysis

Evaluation of potential geologic and soil-related impacts were based on the Geological Reconnaissance Evaluation prepared for the Project by Ninyo & Moore (refer to Appendix F). The Project's geotechnical investigation included review of pertinent background data, including geotechnical reports, topographic maps, geologic data, fault maps, and aerial photographs. A geological reconnaissance was conducted at the solar facility site, which included observation and photo-documentation of existing geologic conditions across the site and an evaluation of possible

geologic hazards that may impact the Project site. Site-specific subsurface exploration and laboratory testing was not conducted in preparation of the geotechnical report prepared for the proposed Project. However, subsurface data was obtained from nearby borings during previous geologic reconnaissance for the Blythe Energy Center, and is referenced in this analysis.

It is assumed that geotechnical design considerations for future structures are designed in accordance with applicable requirements of the California Building Code (CBC), the County of Riverside Municipal Code (for the portion of the Project under County jurisdiction), the City of Blythe Municipal Code (for the portion of the Project under City jurisdiction), and any applicable building and seismic codes in effect at the time the grading plans are approved.

Impacts of the Project on mineral resources were assessed based on the degree to which the Project would reduce the availability of mineral resource areas identified within the Project area. Construction, operation, maintenance, and decommissioning activities for the Project are analyzed in terms of their direct and indirect effects on existing mineral leases and claims, and the future availability of or access to areas containing mineral resources.

3.6.4 Applicable Best Management Practices

As part of the Project, the following applicable BMPs would minimize the environmental impacts to geology and soils. The BMPs have been detailed below (see also **Table 2-4** in Chapter 2) and are further referenced (by number) within the impact discussion.

BMP-1 **Drainage, Erosion, and Sedimentation Control Plan**. As part of the County of Riverside's Conditional Use Permit (CUP) requirements, a Drainage, Erosion, and Sedimentation Control Plan would be developed for the Project. The project shall implement Site design and Source control BMPs according to County Standards. The plan would address the drainage, erosion, and sediment control requirements to support all activities associated with construction, operation, maintenance, and decommissioning of the Project. For example, any stockpiles created would be kept on site, with an upslope barrier in place to divert runoff. Stockpiles would be sprayed with water, covered with tarpaulins, and/or treated with appropriate dust suppressants, especially in preparation for high wind or storm conditions. Certified weed-free straw bale barriers would be installed to control sediment in runoff water; straw bale barriers would be installed only where sediment-laden water can pond, thus allowing the sediment to settle out. Topsoil from the site would be stripped, stockpiled, and stabilized before excavating earth for facility construction. Topsoil would be segregated and spread on freshly disturbed areas to reduce color contrast and aid rapid revegetation. The Drainage, Erosion, and Sedimentation Control Plan shall also include site design and source control BMPs that minimize the potential for erosion and off-site sedimentation.

BMP-2 **Stormwater Pollution Prevention Plan.** In compliance with requirements of the National Pollutant Discharge Elimination System (NPDES) permit, a Stormwater Pollution Prevention Plan (SWPPP) would be developed and prepared for the

Project to ensure that protection of water quality and soil resources is consistent with County and State regulations. The plan would identify site surface water runoff patterns and include measures that prevent excessive and unnatural soil deposition and erosion throughout and downslope of the Project area and Project-related construction areas, and would also include measures for non-stormwater discharge and waste management. The SWPPP would cover all activities associated with the construction of the Project, including clearing, grading, and other ground disturbance such as stockpiling or excavation erosion control. The plan would prevent off-site migration of contaminated stormwater, changes in pre-Project storm hydrographs, or increased soil erosion.

BMP-3 **Fugitive Dust Abatement Plan.** As required by the Mojave Desert Air Quality Management District Rule 403, a Fugitive Dust Abatement Plan would be prepared to address fugitive dust emissions during Project construction, operation, maintenance, and decommissioning. The plan would include measures to minimize fugitive dust emissions from wrecking, excavation, grading, clearing of land, and solid waste disposal operations, and would take every reasonable precaution to prevent visible particulate matter from being deposited upon public roadways as a direct result of operations. During construction, all unpaved roads, disturbed areas (e.g., areas of scraping, excavation, backfilling, grading, and compacting), and loose materials generated during Project construction activities would be watered as frequently as necessary to minimize fugitive dust generation. However, the amount of water will be minimized each time to prevent temporarily ponding water that may occur as a result of the fugitive dust plan. In water-deprived locations, water spraying would be limited to active disturbance areas only, and non-water-based dust control measures would be implemented in areas with intermittent use or use that is not heavy, such as stockpiles or access roads. The dust suppression measures would consider the sensitivity of wildlife to the windborne dispersal of fugitive dust containing dust suppressants and the potential impact on future reclamation.

The Dust Abatement Plan includes three specific measures (BMP 3.1 through BMP 3.3) as listed below:

BMP-3.1 The following signage shall be erected not later than the commencement of construction. A minimum 48 inch high by 96 inch wide sign containing the following shall be located within 50 feet of each Project site entrance, meeting the specified minimum text height, black text on white background, on one inch A/C laminated plywood board, with the lower edge between six and seven feet above grade, with the contact name of a responsible official for the site and a local or toll-free number that is accessible 24 hours per day:

"[Site Name] {four inch text}

[Project Name/Project Number] {four inch text}

IF YOU SEE DUST COMING FROM {four inch text}

THIS PROJECT CALL: {four inch text}

[Contact Name], PHONE NUMBER XXX-XXXX {six inch text}

If you do not receive a response, Please Call {three inch text}

The MDAQMD at 1-800-635-4617 {three inch text}"

BMP-3.2 For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization, durable polymeric soil stabilizers, or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from sand/fines deposits.

BMP-3.3 All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The owner/ operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule or project-specific biological mitigation prohibiting wind fencing.

BMP-8 **Cleanup and Restoration.** Upon completion of construction activities, all unused materials and equipment shall be removed from the Project area. All construction equipment and refuse including, but not limited to, wrapping material, cables, cords, wire, boxes, rope, broken equipment parts, twine, strapping, buckets, and metal or plastic containers shall be removed from the site and disposed of properly after completion of construction. Any unused or leftover hazardous products shall be properly disposed of off-site.

BMP-11 **Project structures, gen-tie, and building surfaces.** Project facilities would be sited to ensure that there is adequate space (i.e., setbacks of no less than 100 feet) between solar facilities and natural washes. These setbacks would preserve and maintain the natural washes' hydrological functions. The color and finish of Project structure and building surfaces that are visible to the public will be designed to ensure minimal visual intrusion, contrast, and glare. Grouped structures will be painted the same color to reduce visual complexity and color contrast. Solar panel backs will be color-treated to reduce visual contrast with the landscape setting. Materials, coatings, or paints having little or no reflectivity will be used wherever possible.

BMP-13 **Ground and surface disturbance.** Construction boundaries would be clearly delineated to minimize areas of ground and surface disturbance. Ground-disturbing activities shall be minimized, especially during the rainy season. Construction-related activities (such as vehicle and foot traffic) would avoid areas with intact biological soil crusts. For cases in which impacts cannot be avoided, soil crusts would be salvaged and restored on the basis of

recommendations by the County of Riverside and BLM once construction has been completed. Existing rocks, vegetation, and drainage patterns shall be preserved to the maximum extent possible. No paint or permanent discoloring agents shall be applied to rocks or vegetation (to indicate surveyor construction activity limits or for any other purpose). All stakes and flagging shall be removed from the construction area and disposed of in an approved facility. Brush-beating, mowing, or use of protective surface matting rather than removing vegetation shall be employed. Clearing and disturbing of sensitive areas (e.g., steep slopes and natural drainages) and other areas shall be avoided outside the construction zone. Surface disturbance would be minimized by utilizing undulating surface disturbance edges; stripping, salvaging, and replacing topsoil; using contoured grading; controlling erosion; using dust suppression techniques; and restoring exposed soils to their original contour and vegetation.

3.6.5 CEQA Significance Criteria

The criteria used to determine the significance of potential geology, soils, and mineral resources impacts are based on Appendix G of the CEQA Guidelines. The Project would result in a significant impact under CEQA related to geology, soils, and mineral resources if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (see Impact GEO-1a);
    - Strong Seismic ground shaking (see Impact GEO-1b);
    - Seismic-related ground failure, including liquefaction (see Impact GEO-1c); or
    - Landslides (see Effects Found Not to Be Significant).
- Result in substantial soil erosion or the loss of topsoil (see Impact GEO-2);
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse (see Impact GEO-3);
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life and property (see Impact GEO-4);
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water (see Impact GEO-5); or
- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. (see Impact MR-1).

- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan (see Effects Found Not to Be Significant).

The County of Riverside's Environmental Assessment Form includes additional significance criteria, which were also used in the analysis. The additional criteria indicate that a project could have potentially significant impacts if it would:

- Change topography or ground surface relief features (see Effects Found Not to Be Significant);
- Create cut or fill slopes greater than 2:1 or higher (see Effects Found Not to Be Significant);
- Result in grading that affects or negates subsurface sewage disposal systems (see Impact GEO-5);
- Change deposition, siltation or erosion that may modify the channel of a river or stream or the bed of a lake (see Effects Found Not to Be Significant);
- Result in an increase in wind erosion and blowsand from project either on or off site (see Effects Found Not to Be Significant);
- Be an incompatible land use located adjacent to a State classified or designated area of existing surface mine (see Effects Found Not to Be Significant); or
- Expose people or property to hazards from proposed, existing or abandoned mines (see Effects Found Not to Be Significant).
- Be subject to geologic hazards, such as seiche, mudflow, or volcanic hazard (see Effects Found Not to Be Significant).

Effects Found Not to Be Significant

It was determined that the PVMSP would not result in impacts to the following significance criteria:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:
  - Landslides.
- Change topography or ground surface relief features.
- Create cut or fill slopes greater than 2:1 or higher.

Landslides may be induced by strong vibratory motion produced by earthquakes. Research and historical data indicate that seismically induced landslides tend to occur in weak soil and rock on sloping terrain. Based on review of the RCGP Figure S-4, the relatively gentle slopes in areas underlain by alluvium, and the dense nature of the older alluvium, the potential for seismically induced landslides and debris flows at the Project site is not considered likely. The Project would require only minor grading and would not permanently change the topography of the site or would not create cut or fill slopes greater than 2:1 or higher which could weaken the integrity of

the soil and increase landslide hazards. In addition, no landslides, debris flows, or rock falls are known to be present on the site. No impacts would occur.

- Change deposition, siltation or erosion that may modify the channel of a river or stream or the bed of a lake;

Project facilities and solar panels would be placed with adequate setbacks from the existing ephemeral washes that are present at the site in accordance with BMP-11. These setbacks would preserve and maintain the hydrological functions of these washes to the extent possible. As a result there would be no change in the deposition, siltation or erosion that would substantively modify the channel and there would be no impact.

- Result in an increase in wind erosion and blowsand from project either on or off site; During construction, the Project would implement BMPs 1 through 3 which would ensure that all earthwork activities and movement of heavy equipment is done in a manner that minimizes the ability for disturbed soils and sand to be susceptible to the effects of wind erosion. Stockpiles would be sprayed with water, covered with tarpaulins, and/or treated with appropriate dust suppressants, especially in preparation for high wind or storm conditions. Once constructed, the site would have less exposed soil that could be susceptible to wind erosion than under existing conditions. Therefore, there would be no impact related to this criterion. (see also discussion below for analysis of erosion or loss of topsoil potential from wind or water forces)
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.
- Expose people or property to hazards from proposed, existing or abandoned mines.
- The Project site is not delineated in the Palo Verde Valley Area Plan or the RCGP as a locally important mineral resource recovery site; therefore, the loss of availability of a delineated locally important mineral resource recovery site would not occur. No impact would occur. In addition, there are no existing, planned or abandoned mines with the Project site and the Project would not be located adjacent to a State classified existing surface mines. Therefore, no impact would occur.
- Be subject to geologic hazards, such as seiche, mudflow, or volcanic hazard.
- Seiche waves occur on enclosed or semi-enclosed bodies of water which are not present on or near the Project site. Mudflows are debris flows that have high water content and based on the flat topography of the site and surrounding area would not be likely at the Project site. There are no volcanic hazards in the region of the Project site that could adversely affect the Project. As a result, there would be no impact.

3.6.6 Impact Analysis

Impact GEO-1a: The Project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving rupture of a known earthquake fault. This impact would be *less than significant*.

The Project area is located within a seismically active area. However, as shown in **Table 3.6-1**, *Principal Active Faults*, the closest active fault to the Project area is the Brawley Seismic Zone, approximately 60 miles from the Project area. The Project area would not be located within a designated Alquist-Priolo Fault Zone, and there are no known active or potentially active faults that intersect the Project area. Therefore, the potential for surface ground rupture and lurching or cracking of the ground surface at the solar facility and gen-tie line is considered very low and the potential impact is considered less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

This impact would be less than significant.

Impact GEO-1b: The Project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving strong seismic ground shaking. This impact would be *less than significant with mitigation incorporated.*

Although no known active or potentially active faults underlie the Project area, severe ground shaking along the faults identified in **Table 3.6-1** could result in damage to Project site structures, including the PV solar panels, inverters/transformers, interior collection lines, on-site substations, and O&M building, as well as the gen-tie line if not designed and engineered appropriately.

The California Building Code recommends that the design of structures be based on the peak horizontal ground acceleration (PGA) having a 2 percent probability of exceedance in 50 years, which is defined as the Maximum Considered Earthquake (MCE). The geotechnical report identified the Project area as a Site Class D for seismic hazards. The proposed Project would be constructed in compliance with State and local regulations and standards. Implementation of appropriate BMPs listed above, and the regulatory requirements put in place prior to final Project design and construction would minimize any potential impacts related to strong seismic ground shaking.

The construction and operation of the Project would not change the intensity of ground shaking that would occur in the Project area during a seismic event. Potential impacts to the solar facility and associated structures related to ground shaking would be reduced through compliance with State and local regulations and standards, and established engineering procedures. Future structures would be designed in accordance with the County of Riverside Building Code and the most recent CBC, and would be consistent with the recommendations outlined in the geotechnical report prepared for the proposed Project. Appropriate BMPs listed above, and the regulatory requirements put in place prior to final Project design and construction to minimize any potential impacts related to secondary seismic effects during operation and maintenance activities. While potentially significant impacts related to secondary seismic effects could occur, implementation of Mitigation Measures GEO-1 and GEO-2, impacts would reduce impacts to less than significant. Impacts as a result of decommissioning activities would be similar to construction.

Mitigation Measure

Implementation of mitigation measures GEO-1 and GEO-2 would mitigate Impact GEO-1b (see *Section 3.6.8* below).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measure GEO-1.

Impact GEO-1c: The Project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving liquefaction. This impact would be *less than significant with mitigation incorporated.*

Liquefaction and associated lateral spreading is the phenomenon in which loosely deposited, saturated granular soils with silt and clay contents of less than approximately 35 percent, and non-plastic silts (located below the water table) undergo rapid loss of shear strength during strong earthquake-induced ground shaking. Ground shaking of sufficient duration results in the loss of grain-to-grain contact due to rapid rise in pore water pressure, and it eventually causes the soil to behave as a fluid for a short period of time. Liquefaction is generally found to occur in saturated or near-saturated cohesion-less soils at depths shallower than approximately 50 feet below grade. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of ground shaking.

The RCGP, **Figure S-3**, indicates the site is mapped within a zone described as "moderately susceptible" to liquefaction for areas with deep groundwater. However, according to the geotechnical report, due to the relatively dense nature of the underlying deposits that have been documented in the area and the lack of shallow groundwater, the potential for liquefaction and seismically induced settlement to occur at the solar facility site and gen-tie line corridor is considered low; therefore, no design techniques are suggested. However, the geotechnical report recommends subsequent geotechnical work to determine site specific parameters for foundation design and engineering include confirmation of findings with respect to liquefaction potential. Implementation of Mitigation Measures GEO-2 and GEO-3 would require implementing the recommended appropriate and feasible design features from the final geotechnical study; recommended measures may include the removal of loose soil layers and replacement with compacted fill or specialized foundation design, along with the use of deep foundation systems, to help support structures. Potential impacts related to liquefaction and liquefaction-induced settlement would be potentially significant, but would be reduced to a less than significant level with implementation of Mitigation Measures GEO-1, GEO-2 and GEO-3

Mitigation Measure

Implementation of Mitigation Measures GEO-1, GEO-2 and GEO-3 would mitigate Impact GEO-2 (see *Section 3.6.8* below).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures GEO-1 through GEO-3.

Impact GEO-2: The Project would be susceptible to wind and water erosion which could result in substantial soil erosion or the loss of topsoil. This impact would be *less than significant with mitigation incorporated.*

Construction of the Project would require ground-disturbing activities, including solar panel installation, substations, O&M buildings and associated septic systems, and construction of access roads. Construction activities would create the potential for soil erosion through exposure of site soils during earthwork activities. Disturbed soils accelerate erosion and increase sediment in stormwater runoff to receiving waters, causing increased turbidity and sedimentation. In addition, the soils in the Project area would be subject to wind erosion during construction activities, as the Project is located in an area with moderate and high wind erosion susceptibility, per RCGP *Figure S-8*. Implementation of the Project could result in both short-term, construction-related wind and water erosion of soils. However, implementation of the Project would not increase this susceptibility onsite or offsite. In addition, the proposed Project would implement fugitive dust control measures as required under MDAQMD Rule 403, as a matter of regulation (BMP-3), to help limit fugitive dust. The proposed Project would also implement the required Storm Water Pollution Prevention Plan (SWPPP) and development of a Drainage, Erosion, and Sedimentation Control Plan (BMP-1 and BMP-2) which would result in less than significant impacts related to water erosion during construction. In addition, Project facilities would be sited with adequate space (i.e., setbacks of no less than 100 feet) between solar facilities and natural washes (BMP-11). The SWPPP and Drainage, Erosion, and Sedimentation Control Plan would protect soil resources consistent with County and State regulations. The SWPPP and Drainage, Erosion, and Sedimentation Control Plan shall identify site surface water runoff patterns and implement temporary soil and erosion control Best Management Practices (BMPs) to prevent excessive and unnatural soil deposition and erosion throughout Project-related construction areas and downslope of the Project area. While implementation of BMP-1, BMP-2 and BMP-11 would reduce or avoid potential impacts with respect to substantial soil erosion or the loss of topsoil during construction activities, the potential impact could be significant.

Implementation of BMP-11 and BMP-13 requires that Project facilities would be sited to ensure that there is adequate space (i.e., setbacks of no less than 100 feet) between solar facilities and natural washes. These setbacks would preserve and maintain the natural washes' hydrological functions. As described further in Section 3.9, *Hydrology and Water Quality*, implementation of Mitigation Measures HYD-1 through HYD-4, would minimize ground disturbance from road construction at streams, washes, and irrigation channels as well as reduce long-term potential for erosion and sedimentation from stormwater draining from the Project facilities.

Operation and maintenance activities would include daily operations and routine maintenance activities, such as PV panel washing, which are anticipated to occur up to two times per year, if necessary, to optimize output. Cleaning operations would not alter the drainage patterns on site, and would not lead to a substantial increase in erosion or loss of topsoil. Any surface water runoff resulting from Project impervious surfaces is not anticipated to influence surface runoff in a manner that would result in erosion or loss of topsoil.

No heavy equipment use is anticipated during normal operation activities. Operation and maintenance vehicles could include trucks (pickup and flatbed), forklifts, and loaders for routine

and unscheduled maintenance and water trucks for solar panel washing. Large, heavy-haul transport equipment may be brought to the solar facility infrequently for equipment repair or replacement. Due to the infrequent and temporary nature of operation and maintenance activities, no substantial erosion or loss of top soil is anticipated. However, implementation of the Project would result in both short-term wind and water erosion of soils related to long-term operation and maintenance activities that could be significant. Implementation of BMP-11 and BMP-3, along with Mitigation Measures HYD-1 through HYD-4, would reduce impacts to geology and soils to less than significant.

Because areas subject to decommissioning would have been disturbed during construction, no additional impacts related to wind or water erosion within the Project area are anticipated during decommissioning of the proposed Project. Furthermore, it is anticipated that the Applicant would apply appropriate BMPs to minimize impacts related to both short-term wind erosion and water erosion related to operation and maintenance activities similar to those applied during construction and O&M activities. Compliance with appropriate BMPs and regulatory requirements would reduce potential impacts related to both short-term wind erosion and water erosion related to long-term O&M activities during decommissioning of the Project.

Mitigation Measure

Implementation of Mitigation Measures HYD-1 through HYD-4 would mitigate Impact GEO-2 (see *Section 3.9.8*).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures HYD-1 through HYD-4.

Impact GEO-3: The Project could be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. This impact would be *less than significant with mitigation incorporated.*

Subsidence is characterized as a sinking of the ground surface relative to surrounding areas and generally occurs where deep alluvial deposits are present in valley areas or other relatively soft deposits are found. Placement of new loads such as new structures or other improvements can cause subsidence unless the underlying soils are given appropriate site preparation. Subsidence can also be associated with groundwater withdrawal or other fluid withdrawal from the subsurface, such as oil and natural gas. Extraction of these geologic components can cause subsidence, which can result in the development of surface ground cracks and fissures, particularly near valley margins. Cracks and earth fissures can cause damage to improvements, including roads, transmission lines, foundations, and structures. *The RCGP* Figure S-7 designates the Project area as a "Susceptible Area" with regard to potential ground subsidence. Based on observations during the geotechnical site reconnaissance, no ground cracks or earth fissures were observed. However, the site is generally covered with a mantle of eolian sand or active or plowed agricultural fields that may conceal underlying cracks or fissures.

Based on the geotechnical report, the Project is geotechnically feasible provided that the recommendations in the geotechnical report are incorporated into the preliminary design of the Project. Prior to final Project design and construction, a site-specific subsurface geotechnical evaluation would be required to assess the potential for subsidence and/or the presence of earth fissures underlying the Project area (Mitigation Measures GEO-1, GEO-2, and GEO-3). Potentially significant impacts related to subsidence could occur if geotechnical recommendations are not incorporated into Project design. However, with implementation of Mitigation Measures GEO-1, GEO-2, and GEO-3, impacts would be reduced to less than significant.

As discussed above, the Project area is not located in an area subject to on- or off-site landslides and no impact would occur related to landslides. Lateral spreading, a phenomenon associated with liquefaction, is a function of ground shaking and may occur during an earthquake. Potentially significant impacts related to lateral spreading could occur but would be less than significant with implementation of Mitigation Measures GEO-1, GEO-2 and GEO-3.

Potentially significant impacts related to unstable geologic units or soil have been addressed in the discussion above; implementation of Mitigation Measure GEO-1, GEO- 2 and GEO-3, appropriate BMPs, and the regulatory requirements put in place prior to final Project design and construction would minimize any potential significant impacts related to secondary seismic effects during operation and maintenance activities.

Decommissioning of the Project would have no effect on subsidence as the proposed improvements would relieve any overburden pressure that they were causing.

Mitigation Measure

Implementation of Mitigation Measures GEO-1, GEO-2 and GEO-3 would mitigate Impact GEO-3.

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures GEO-1, GEO-2, and GEO-3.

Impact GEO-4: The Project could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life and property. This impact would be *less than significant with mitigation incorporated.*

Expansive soils generally result from specific clay minerals that have the capacity to shrink or swell in response to changes in moisture content. Based on review of regional geologic maps and geologic reconnaissance, the deposits underlying the solar facility site and gen-tie corridor consist of granular alluvial deposits (sand and gravel). The potential for near-surface expansive soils to adversely affect proposed improvements at the solar facility site and gen-tie corridor is considered low and the impact would be less than significant. Nevertheless, implementation of Mitigation Measure GEO-1 and GEO-3 would help to ensure that no expansive soils are present such that they would adversely affect proposed improvements. No impacts are anticipated during operation and decommissioning, as Project design and construction would minimize any potential effects to geological/soil resources.

Mitigation Measure

Implementation of Mitigation Measures GEO-1 and GEO-3 would mitigate Impact GEO-4.

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures GEO-1 and GEO-3.

Impact GEO-5: The Project could have soils that are incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water or result in grading that affects or negates subsurface sewage disposal systems. This impact would be *less than significant with mitigation incorporated.*

The proposed Project would require the use of a septic tank system to treat domestic wastewater from the O&M building located within the solar facility site. The O&M building would include bathroom facilities serviced by a private septic system and would be designated occupancy classification U[3]. The Project would require a septic system permit from the Riverside County Department of Environmental Health Services prior to the installation of the septic system on the solar facility site. As part of the septic system permit requirements described in Mitigation Measure GEO-3, the system would be required to be placed in soils capable of adequately supporting the septic system. In addition, the grading required for the Project would be relatively minor and consist largely of grubbing and light grading. Therefore, construction activities would not adversely affect the ability of soils to adequately support the proposed septic system as demonstrated by the permit requirements. As a result, the potential impact with implementation of Mitigation Measure GEO-3 would be less than significant.

Decommissioning and dismantling activities would result in the removal of the private septic system by uncovering trenches and backfilling when done. Because areas subject to decommissioning would have been disturbed during construction, no additional impacts related to removal of the septic system are anticipated during decommissioning of the proposed Project.

Mitigation Measure

Implementation of Mitigation Measures GEO-4 would mitigate impact GEO-5.

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measure GEO-4.

Impact MR-1: The Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. This impact would be *less than significant.*

As discussed above under *Effects Found Not to Be Significant*, the Project site is not delineated in the Palo Verde Valley Area Plan or the RCGP as a locally important mineral resource recovery site. In addition, the Project area is not used for mineral production, nor is it under claim, lease, or

[3] Classification U is applied to buildings or structures with an accessory character or miscellaneous structures not classified with a specific occupancy. These buildings or structures shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy.

permit for the production of locatable, leasable, or salable minerals or mineral materials. Based on the RCGP Figure OS-5, Mineral Resource Area, the Project would be located within the State of California-designated Mineral Resources Zone (MRZ) Classification of MRZ-4, which is defined as an area where there is not enough information available to determine the presence or absence of mineral deposits; therefore, the Project would not result in the loss of the availability of a known mineral resource classified by the State.

However, the Project area is underlain by sand and gravel, which potentially could represent a source of saleable minerals or mineral materials if there is a sufficient local demand for construction aggregate. Although the Project would make land unavailable for the life of the Project, impacts to mineral resources would be less than significant impact for the following reasons:

1. Deposits of similar age and lithology that are likewise potential sources of sand and gravel are estimated to underlie a large portion of eastern Riverside County.
2. There is no information to indicate that the sand and gravel underlying the site are unique, of higher quality, or any more marketable than other similar deposits that are widespread throughout eastern Riverside County.
3. There is an existing producer of sand and gravel within ten miles of the Blythe Landfill, which likely would be able to serve local future demand for sand and gravel.
4. Following the decommissioning of the Project, the land occupied by the Project would again be made available for applications to the BLM for exploration or production of aggregate construction materials.

For all of the reasons described above, the Project would result in less than significant impacts to mineral resources of value to the region and residents of the state.

Mitigation Measures

No mitigation is required.

Significance after Mitigation

This impact would be less than significant.

3.6.7 Cumulative Impacts

The geographic scope of cumulative effects would include eastern Riverside County. The Project area, as well as those of other projects in the region, would be located in a seismically active region, and people and structures could be exposed to seismic ground shaking and subsequent seismic-related ground failure. A seismic event on any one of these faults could potentially result in effects that are observed at the Project area or any of the cumulative project sites. Therefore, all of the other projects in the listed in **Table 3-2** are considered to be within the geographic scope of analysis.

The Project, as well as other current and future development projects in the cumulative scenario, would be required to comply with applicable State and local requirements including, but not

limited to, the NPDES General Construction Permit, the CBC, the County of Riverside Municipal Code, and the City of Blythe Municipal Code. Seismic impacts are a regional issue and are also addressed through compliance with applicable codes and design standards intended to minimize impacts. Seismic hazards are generally site specific and projects do not combine to become cumulatively significant because underlying conditions can vary significantly across short distances. As such, the potential impacts associated with other current and future projects, would be minimized through implementation of these existing regulatory requirements and would not be considered cumulatively significant. The Project would be subject to the same regulatory requirements and therefore the incremental contribution of the Project to cumulative geotechnical and soils impacts would not be cumulatively considerable.

In addition, while impacts from erosion or loss of top soil for other cumulative projects in the geographic scope may require site-specific analysis to determine the underlying permeability, slope angle and length, extent of groundcover, and human influence on the sites; all projects in the cumulative setting would be required to adhere to similar erosion control requirements of a Drainage, Erosion, and Sedimentation Control Plan (BMP-1), as would the proposed Project. All construction phases of this Project, and other foreseeable projects in the area, would be required to adhere to all federal, State, and local programs, requirements, and policies pertaining to building safety and construction permitting. Because areas subject to decommissioning would have been disturbed during construction, no additional impacts within the Project area are anticipated during decommissioning of the Project. It is anticipated that the Applicant would apply appropriate BMPs to minimize impacts associated with expansive soil during decommissioning activities similar to those applied during construction and operations.

In summary, compliance with appropriate BMPs and regulatory requirements would minimize potential impacts related to expansive soil during construction and decommissioning of the proposed Project. The Project's incremental contribution to cumulative geology, soil, and mineral related impacts from construction and decommissioning would not be cumulatively considerable with implementation of Mitigation Measures GEO-1 through GEO-3 and HYD-1 through HYD-4.

Concerning mineral resources, the impact is not considered cumulatively significant within the geographic scope and the Project will not have a cumulatively considerable contribution for the following reasons as identified under Impact MR-1:

1. Deposits of similar age and lithology that are likewise potential sources of sand and gravel are estimated to underlie a large portion of eastern Riverside County.
2. There is no information to indicate that the sand and gravel underlying the site are unique, of higher quality, or any more marketable than other similar deposits that are widespread throughout eastern Riverside County.
3. There is an existing producer of sand and gravel within ten miles of the Blythe Landfill, which likely would be able to serve local future demand for sand and gravel.
4. Following the decommissioning of the Project, the land occupied by the Project would again be made available for applications to the BLM for exploration or production of aggregate construction materials.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Cumulative impacts would be less than significant.

3.6.8 Mitigation Measures

GEO-1 Prior to final design and construction, a site-specific subsurface geotechnical evaluation/report shall be prepared to evaluate the potential ground-shaking hazard, which would meet the requirements of the most recent version of the California Building Code. A state certified Project geologist shall ensure appropriate structural design and mitigation techniques achieve adequate protection according to industry standards and building code requirements.

GEO-2 Should future data suggest the presence of active faulting at the Project area, a fault evaluation may be performed. Mitigation of potential fault rupture hazard would typically include locating improvements away from the trace of an active fault, designing structures for an acceptable amount of movement, or implementing systems to maintain safety and that allow for displacement that could be repaired.

GEO-3 Based on the nature, location and severity of adverse soil conditions, the geotechnical study shall recommend appropriate and feasible design features necessary to reduce the potential for liquefiable, expansive, corrosive, or collapsible soils, as necessary, to adversely affect Project facilities. Such measures might include removal of loose soil layers to be replaced with compacted fill or specialized foundation design, including the use of deep foundation systems, to support structures in accordance with industry standards and building code requirements.

GEO-4 Removal of loose soil layers shall be replaced with compacted fill or specialized foundation design, including the use of deep foundation systems, to support structures. The septic system shall be placed in soils capable of adequately supporting the septic system as determined by the Project Geologist and in accordance with County requirements specified in the Department of Environmental Health Technical Guidance Manual.

3.7 Greenhouse Gas Emissions

This section describes the environmental setting and regulatory framework in regards to greenhouse gas emissions for the proposed Project and the impact analysis relating to greenhouse gas (GHG) emissions for the PVMSP. Emissions and impacts associated with criteria air pollutants were addressed in Section 3.3, *Air Quality*. Information in this section was derived from the Project Air Quality and Global Climate Change Technical Report prepared by Scientific Resources Associated, 2013 and air emissions modeling conducted by ESA in 2015 using the California Emissions Estimator Model (CalEEMod). The Air Quality and Global Climate Change Technical Report and CalEEMod output is provided in Appendix C. Regulatory information and GHG emissions quantification have been updated based on more recent information and emission factors adopted since the development of the Air Quality and Global Climate Change Technical Report.

3.7.1 Environmental Setting

Characteristics and Definition

Global climate change (GCC) refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), which are known as greenhouse gases (GHGs). These gases allow solar radiation (sunlight) into the Earth's atmosphere, but prevent radiative heat from escaping, thus warming the Earth's atmosphere. Gases that trap heat in the atmosphere are often called GHGs, analogous to a greenhouse, and are emitted by both natural processes and human activities. GHGs in the atmosphere influence regulation of the Earth's temperature. Emissions from human activities, such as burning fossil fuels for electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere.

Scientific evidence indicates a trend of increasing global temperature over the past century, which a number of scientists attribute to an increase in GHG emissions from human activities. The climate change associated with this global warming is predicted to produce negative economic and social consequences across the globe.

Recent observed changes due to global warming include shrinking glaciers, thawing permafrost, a lengthened growing season, and shifts in plant and animal ranges. Generally accepted predictions of long-term environmental impacts due to global warming include sea level rise, changing weather patterns with increases in the severity of storms and droughts, changes to local and regional ecosystems, including the potential loss of species, and a significant reduction in winter snowpack.

The State of California has been at the forefront of developing solutions to address GCC. GCC refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time. GCC may result from natural factors, natural processes, and/or human activities that change the composition of the atmosphere and alter the surface and features of land.

The United Nations Intergovernmental Panel on Climate Change (IPCC) developed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The IPCC concluded that a stabilization of GHGs at 400 to 450 ppm CO_2 equivalent concentration is required to keep global mean warming below 3.6 degrees ºF (2º Celsius), which is assumed to be necessary to avoid dangerous climate change (AEP, 2007).

State law defines GHGs as any of the following compounds: CO_2, CH_4, N_2O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) (California Health and Safety Code Section 38505(g)). CO_2, CH_4, and N_2O are the most common GHGs that result from human activity.

GHG Inventory

The State of California GHG Inventory developed by the California Air Resources Board (CARB) compiled statewide anthropogenic GHG emissions and sinks. It includes estimates for CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs. The current inventory covers the years 1990 to 2013, and is summarized in **Table 3.7-1**. Data sources used to calculate this GHG inventory include California and federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the IPCC. The 1990 emissions level is the sum total of sources and sinks from all sectors and categories in the inventory. The inventory is divided into seven broad sectors and categories in the inventory. These sectors include: Agriculture; Commercial; Electricity Generation; Forestry; Industrial; Residential; and Transportation.

Total GHG emissions from a source are often reported as a CO_2 equivalent (CO_2e). The CO_2e is calculated by multiplying the emission of each GHG by its global warming potential and adding the results together to produce a single, combined emission rate representing all GHGs. GHG emissions are typically quantified in metric tons (MT) or millions of metric tons (MMT).

TABLE 3.7-1
STATE OF CALIFORNIA GHG EMISSIONS BY SECTOR

Sector	Total 1990 Emissions ($MMTCO_2e$)	Percent of Total 1990 Emissions	Total 2013 Emissions ($MMTCO_2e$)	Percent of Total 2013 Emissions
Agriculture	23.4	5%	36.21	8%
Commercial	14.4	3%	28.035	6%
Electricity Generation	110.6	26%	90.45	20%
Forestry (excluding sinks)	0.2	<1%		
Industrial	103.0	24%	92.68	20%
Residential	29.7	7%	15.505	3%
Transportation	150.7	35%	169.02	37%
Recycling and Waste			8.87	2%
High GWP Gases			18.5	4%
Forestry Sinks	(6.7)		36.21	8%

SOURCE: CARB 2015

GHGs have varying global warming potential (GWP). The GWP is the potential of a gas or aerosol to trap heat in the atmosphere; it is the "cumulative radiative forcing effect of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas" (EPA, 2015a). The GWP rating system is standardized to CO_2, which has a value of one. For example, CH_4 has a global warming potential of 25, which means that it has a global warming effect 25 times greater than CO_2 on an equal-mass basis. **Table 3.7-2** presents the GWP and atmospheric lifetimes of common GHGs.

TABLE 3.7-2
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES OF GHGS

GHG	Formula	100-Year Global Warming Potential	Atmospheric Lifetime (Years)
Carbon Dioxide	CO_2	1	Variable
Methane	CH_4	25	12
Nitrous Oxide	N_2O	290	114
Sulfur Hexafluoride	SF_6	23,900	3,200

SOURCE: IPCC, 2007

Human-caused sources of CO_2 include combustion of fossil fuels (coal, oil, natural gas, gasoline, and wood). Data from ice cores indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years. Concentrations of CO_2 have increased in the atmosphere since the industrial revolution.

CH_4 is the main component of natural gas and also arises naturally from anaerobic decay of organic matter. Human-caused sources of natural gas include landfills, fermentation of manure, and cattle farming. Human-caused sources of N_2O include combustion of fossil fuels and industrial processes such as production of nylon or nitric acid.

Other GHGs are present in trace amounts in the atmosphere and are generated from various industrial or other uses.

Potential Climate Change Impacts

The Climate Scenarios Report (CCCC, 2006) uses a range of emissions scenarios developed by the Intergovernmental Panel on Climate Change (IPCC) to project a series of potential warming ranges (i.e., temperature increases) that may occur in California during the 21st century. Three warming ranges were identified: lower warming range (3.0 to 5.5 ºF); medium warming range (5.5 to 8.0 ºF); and higher warming range (8.0 to 10.5 ºF). The Climate Scenarios Report then presents an analysis of the future projected climate changes in California under each warming range scenario.

According to the report, substantial temperature increases would result in a variety of impacts to the people, economy, and environment of California. These impacts would result from a projected increase in extreme conditions, with the severity of the impacts depending upon actual future

emissions of GHGs and associated warming. If the Project were to contribute substantially to climate change, then it would be contributing to the following potential consequences of climate change:

Public Health. Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone (O_3) formation are projected to increase by 25 to 35 percent under the lower warming range and 75 to 85 percent under the medium warming range. In addition, if global background O_3 levels increase is as predicted in some scenarios, it may become impossible to meet local air quality standards. An increase in wildfires could also occur, and the corresponding increase in the release of pollutants, including fine particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$), could further compromise air quality. The Climate Scenarios Report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

Potential health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, and air quality degradation. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress- and heat-related problems (e.g., heat rash and heat stroke). In addition, climate-sensitive diseases (such as malaria, dengue fever, yellow fever, and encephalitis) may increase, such as those spread by mosquitoes and other disease-carrying insects.

Water Resources. A vast network of reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada mountain snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages. In addition, if temperatures continue to rise, more precipitation would fall as rain instead of snow, further reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. The state's water resources are also at risk from rising sea levels. An influx of seawater would degrade California's estuaries, wetlands, and groundwater aquifers.

Agriculture. Increased GHG and associated increases in temperature are expected to cause widespread changes to the agricultural industry, reducing the quantity and quality of agricultural products statewide. Significant reductions in available water supply to support agriculture would also impact production. Crop growth and development would change, as would the intensity and frequency of pests and diseases.

Ecosystems/Habitats. Continued global warming would likely shift the ranges of existing invasive plants and weeds, thus altering competition patterns with native plants. Range expansion is expected in many species, while range contractions are less likely in rapidly evolving species with significant populations already established. Continued global warming is also likely to increase the populations and types of pests. Continued global warming would also affect natural ecosystems and biological habitats throughout the state. This effect of

global climate change could affect current ecosystems/habitats in desert areas near the proposed solar facility.

Wildland Fires. Global warming is expected to increase the risk of wildfire and alter the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors including precipitation, winds, temperature, and landscape and vegetation conditions, future risks would not be uniform throughout the state. Global climate change in the Southern California region could lead to increased risk of wildfires, which could reduce solar energy output by obscuring sunlight.

Rising Sea Levels. Rising sea levels, more intense coastal storms, and warmer water temperatures would increasingly threaten the state's coastal regions. Under the high warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. A sea level risk of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten levees and inland water systems, and disrupt wetlands and natural habitats.

3.7.2 Regulatory Setting

On a national scale, federal agencies are addressing emissions of GHGs by reductions mandated in federal laws and Executive Orders. Several states have promulgated laws as a means to reduce statewide levels of GHG emissions. In particular, the California Global Warming Solutions Act of 2006 directs the State of California to reduce statewide GHG emissions to 1990 levels by the year 2020.

Federal

Recent actions by the EPA have allowed for the regulation of GHGs. On April 17, 2009, the EPA issued its proposed endangerment finding for GHG emissions. On December 7, 2009, the EPA Administrator signed and finalized two distinct findings regarding greenhouse gases under Section 202(a) of the Clean Air Act:

Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)—in the atmosphere threaten the public health and welfare of current and future generations.

Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite to finalizing the EPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by the EPA and the Department of

Transportation's National Highway Safety Administration on September 15, 2009 and adopted on April 1, 2010. As finalized in April 2010, the emissions standards rule for vehicles will improve average fuel economy standards to 35.5 miles per gallon by 2016. In addition, the rule will require model year 2016 vehicles to meet an estimated combined average emission level of 250 grams of carbon dioxide per mile.

On March 10, 2009, in response to the FY2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), the EPA proposed a rule that requires mandatory reporting of GHG emissions from large sources in the U.S. On September 22, 2009, the Final Mandatory Reporting of Greenhouse Gases Rule was signed, and it was published in the Federal Register on October 30, 2009. The rule became effective on December 29, 2009. The rule will collect accurate and comprehensive emissions data to inform future policy decisions.

The EPA is requiring suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to the EPA. The gases covered by the proposed rule are CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, and other fluorinated gases, including nitrogen trifluoride (NF_3) and hydrofluorinated ethers (HFE).

State

The State of California enacted some of the first legislation in the U.S. to regulate GHGs. The following subsections describe regulations and standards that have been adopted by the State of California to address GHG emissions.

Assembly Bill 32 and the California Climate Change Scoping Plan

Assembly Bill 32 Requirements

In 2006, the California legislature passed Assembly Bill 32 (California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires the CARB to design and implement feasible and cost-effective emissions limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25-percent reduction in emissions). AB 32 anticipates that the GHG reduction goals will be met, in part, through local government actions. The CARB has identified a GHG reduction target of 15 percent from current levels for local governments (municipal and community-wide) and notes that successful implementation of the plan relies on local governments' land use planning and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions.

Scoping Plan Provisions

Pursuant to AB 32, the CARB adopted a Climate Change Scoping Plan in December 2008 (re-approved by the CARB on August 24, 2011) outlining measures to meet the 2020 GHG reduction goals. In order to meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels or about 15 percent from today's levels. The Scoping Plan recommends measures that are worth studying further, and that the State of California may implement, such as new fuel regulations. It estimates that a reduction of

174 million metric tons of CO_2e (about 191 million U.S. tons) from the transportation, energy, agriculture, forestry, and other sources could be achieved should the state implement all of the measures in the Scoping Plan. The Scoping Plan relies on the requirements of Senate Bill (SB) 375 (discussed below) to implement the carbon emission reductions anticipated from land use decisions.

The First Update to the Climate Change Scoping Plan describes progress made to meet near-term emissions goals of AB 32, defines California's climate change priorities and activities for the next few years, and describes the issues facing the State as it establishes a framework for achieving air quality and climate goals beyond the year 2020. In regards to achieving the 2050 GHG reduction goal, "progressing toward California's long-term climate goals will require that GHG reduction rates be significantly accelerated. Emissions from 2020 to 2050 will have to decline at more than twice the rate of that which is needed to reach the 2020 statewide emissions limit" (CARB, 2014)

Senate Bill 97

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. SB 97 directed the Governor's Office of Planning and Research (OPR) to develop draft CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" by July 1, 2009, and directed the California Natural Resources Agency (CNRA) to certify and adopt the CEQA guidelines by January 1, 2010.

The OPR published a technical advisory on CEQA and climate change on June 19, 2008. The guidance did not include a suggested threshold, but stated that the OPR had asked the CARB to "recommend a method for setting thresholds which will encourage consistency and uniformity in the CEQA analysis of greenhouse gas emissions throughout the state." The OPR technical advisory does recommend that CEQA analyses include the following components:

- Identification of GHG emissions;
- Determination of significance; and
- Mitigation of impacts, as needed and as feasible.

On December 31, 2009, the CNRA adopted the proposed amendments to the CEQA Guidelines. These amendments became effective on March 18, 2010.

Executive Order S-3-05

Executive Order S-3-05, signed by Governor Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions below 1990 levels by 2050. Executive Order S-3-05 also calls for the California EPA to prepare biennial science reports on the potential impact of continued GCC on certain sectors of the California economy. The first of these reports, "Our Changing Climate: Assessing Risks to California," and its supporting document, "Scenarios of Climate Change in California: An Overview," were published by the California Climate Change Center in 2006.

California Code of Regulations Title 24

Although not originally intended to reduce GHG emissions, Title 24 of the California Code of Regulations, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow for the consideration and possible incorporation of new energy efficiency technologies and methods. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in GHG emissions. Therefore, increased energy efficiency results in decreased GHG emissions.

The GHG emission inventory was based on Title 24 standards as of October 2005; however, Title 24 has been updated as of 2013 and standards are currently being phased in.

Senate Bills 1078, 107, and X1-2 and Executive Orders S-14-08 and S-21-09

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

In November 2008, then-Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Portfolio Standard to 33 percent renewable power by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard (RPS) by signing Executive Order S-21-09, which directs the CARB under its AB 32 authority to enact regulations to help the state meet its Renewable Portfolio Standard goal of 50 percent renewable energy by 2030.

The 33-percent-by-2020 goal was codified in April 2011 with Senate Bill X1-2, which was signed by Governor Edmund G. Brown, Jr. This new RPS preempts the CARB 33 percent Renewable Electricity Standard and applies to all electricity retailers in the state, including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013 and 25 percent by the end of 2016, with the 50 percent requirement being met by the end of 2030.

State Standards Addressing Vehicular Emissions

California Assembly Bill 1493 (Pavley), enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. Regulations adopted by the CARB would apply to 2009 and later model year vehicles. The CARB estimated that the regulation would reduce climate change emissions from light-duty passenger vehicle fleets by an estimated 18 percent in 2020 and by 27 percent in 2030 (AEP, 2007). Overall within the state of California, implementation of the Pavley standards is anticipated to reduce GHG emissions by 17.23 percent (CARB, 2011).

The CARB has adopted amendments to the Pavley regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments, approved by the CARB Board on

September 24, 2009, are part of California's commitment toward a nationwide program to reduce new passenger vehicle GHGs from 2012 through 2016 and prepare California to harmonize its rules with the federal rules for passenger vehicles.

Executive Order S-01-07

Executive Order S-1-07, signed by then-Governor Arnold Schwarzenegger in 2007, proclaimed that the transportation sector is the main source of GHG emissions in California, at over 40 percent of statewide emissions. The order established a goal of reducing the carbon intensity of transportation fuels sold in California by a minimum of 10 percent by 2020. It also directed the CARB to determine whether this Low Carbon Fuel Standard could be adopted as a discrete, early-action measure after meeting the mandates in AB 32. The CARB adopted the Low Carbon Fuel Standard on April 23, 2009.

Senate Bill 375

SB 375 finds that GHG from autos and light trucks can be substantially reduced by new vehicle technology, but even so, "it will be necessary to achieve significant additional greenhouse gas reductions from changed land use patterns and improved transportation. Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." Therefore, SB 375 requires that regions with metropolitan planning organizations adopt sustainable community strategies, as part of their regional transportation plans, which are designed to achieve certain goals for the reduction of GHG emissions from mobile sources.

Executive Order B-30-15

In April 2015, Governor Edmund G. Brown, Jr. signed Executive Order B-30-15 in order to establish an interim GHG reduction goal for California of 40 percent below 1990 levels by 2030. This target GHG reduction by 2030 would make it possible for California to reach the ultimate goal of reducing GHG emissions by 80 percent under 1990 levels by the year 2050.

Local

MDAQMD

The MDAQMD has established the following thresholds for GHGs (MDAQMD 2011):

- CO_2e 100,000 tpy or 548,000 ppd

County of Riverside Climate Action Plan (CAP)

The County of Riverside Draft CAP, published February 2015, establishes goals and policies that incorporate environmental responsibility into its daily management of residential, commercial and industrial growth. The CAP includes GHG inventories of community-wide and municipal sources based on the most recent data available for the year 2008. Sources of emissions include transportation, electricity and natural gas use, landscaping, water and wastewater pumping and treatment and treatment and decomposition of solid waste. Riverside County's 2008 inventory amounted to 7,012,938 MT CO2e community-wide and 226,753 MT CO2e from municipal operations.

Following the state's adopted AB 32 GHG reduction target, Riverside County has set a goal to reduce emissions back to 1990 levels by the year 2020. This target was calculated as a 15% decrease from 2008 levels, as recommended in the AB 32 Scoping Plan. The estimated community-wide emissions for the year 2020, based on population and housing growth projections associated with the assumptions used in the proposed General Plan Update, are 12,129,497 MT CO_2e. In order to reach the reduction target, Riverside County must offset this growth in emissions and reduce community-wide emissions to 5,960,998 MT CO2e by the year 2020.

3.7.3 Methodology for Analysis

The effects of GHG emissions that would be generated from the PVMSP, as well as the consistency of the proposed Project with the applicable plans and programs that have been implemented by various federal, State, and local agencies with jurisdiction over the Project area, are addressed in this section. Potential GHG emissions from construction, operation and decommissioning, as well as potential emission reductions from fossil-fuel fired electricity generation displacement, are estimated quantitatively to evaluate the impact on GHG emissions due to the proposed Project.

3.7.4 Applicable Best Management Practices

As part of the Project, the following applicable BMPs would minimize environmental impacts associated with GHGs. The BMPs have been detailed below (see also Table 2-4 in Chapter 2) and are further referenced (by number) within the impact discussion.

BMP-16 **Diesel engines.** All diesel engines used in the facility would be fueled only with ultra-low sulfur diesel with a sulfur content of 15 parts per million (ppm) or less. The Project would require use of construction diesel engines with a rating of 50 horsepower (hp) or higher that meet, at a minimum, the Tier 3 California Emission Standards for Off-Road Compression Ignition Engines, as specified in the California Code of Regulations, Title 13, Section 2423(b)(1), unless such engines are not available. If a Tier 3 engine is not available for off-road equipment larger than 100 hp, a Tier 2 engine, or an engine equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NO_x) and diesel particulate matter (DPM) to no more than Tier 2 levels, may be used; however document to the County shall be provided discussing attempts to utilize Tier 3 vehicles. Regulatory agencies may determine that use of such devices is not practical when:

- There is no available retrofit control device verified by either the California Air Resources Board (CARB) or the U.S. Environmental Protection Agency (EPA) to control engines in question to Tier 2 equivalent emission levels and the retrofitted or Tier 1 engines use the highest level of available control technology.
- The construction equipment is intended to be on site for five days or less.
- It can be demonstrated there is a good faith effort to comply with the recommendation and that compliance is not practical.

The idling time of diesel equipment would be limited to no more than 10 minutes, unless idling must be maintained for proper operation (e.g., drilling, hoisting, and trenching).

3.7.5 CEQA Significance Criteria

The guidance for determining significance of impacts has been developed from the requirements of Assembly Bill (AB) 32. The guideline addresses the potential cumulative impacts that a project's GHG emissions could have on global climate change. Based on Appendix G of the CEQA Guidelines and the County of Riverside CEQA Environmental Assessment Form, the following criteria indicate that a project could have potentially significant impacts to global climate change if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (see Impact GHG-1).
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (see Effects Found Not to Be Significant).

As discussed in Section 15064.4 of the CEQA Regulations, the determination of the significance of GHG emissions requires a good-faith effort to assess the significance of impacts from GHG emissions, considering:

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting. (see Impact GHG-1).
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project. (see Impact GHG-1 and Effects Found Not to Be Significant).
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. (see Effects Found Not to Be Significant).

Currently, the County of Riverside CAP has not established a quantitative GHG emissions significance threshold for projects subject to CEQA. Instead, it uses of a "point system" screening table to provide guidance in measuring the reduction of GHG emissions attributable to certain design and construction measures incorporated into residential, commercial, and mixed-use development projects. Projects that garner at least 100 points will be consistent with the GHG reduction measures for the County and would be determined to have a less than significant impact for GHG emissions. However, since the project is neither a residential or commercial development, the "point system" determination would not be applicable to the proposed Project. Therefore, the significance determination methodology provided by the County of Riverside CAP is not applied to this Project.

As discussed above, the MDAQMD has established the GHG thresholds of 100,000 tpy or 548,000 ppd CO_2e (MDAQMD, 2011). The Project's total GHG emissions are evaluated against MDAQMD's threshold to determine if the Project will have a significant GHG emissions impact.

As such, the significance criteria are used to provide a context for the magnitude of Project emissions in relation to its contribution to the impact of global climate change.

Effects Found Not to Be Significant

Based on the findings in the Air Quality and Global Climate Change Technical Report for the Palo Verde Mesa Solar Project prepared for the proposed Project, it was determined that the following criterion would not result in a significant impact. Please see brief discussion below.

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The PVMSP would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Since the proposed Project would result in a significant offset of regional air emissions associated with energy production from fossil fuels, a net reduction in GHG emissions regionally could result. The Project would serve to meet the State's goals for the RPS, which has been identified by the State as a means of meeting the goals of AB 32 to reduce emissions to 1990 levels by the year 2030.

3.7.6 Impact Analysis

Impact GHG-1: The Project could generate greenhouse gas emissions that may have a significant impact on the environment. This impact would be *less than significant.*

Construction

The main source of GHG emissions associated with the Project would be combustion of fossil fuels during construction of the Project. Emissions of GHG were calculated using CalEEMod (2013.2.2) and the same approach as for the overall construction emissions discussed in Section 3.3.3, with output data included in Appendix C. Accordingly, construction of the solar arrays, substation, associated buildings, and gen-tie line over the three-year duration would generate approximately 4,582 metric tons of CO_2e. Climate change occurs as a result of long-term changes in the earth's atmosphere, and would not be affected by a single three-year emission period. However, to ensure that the construction emissions of this Project would not constitute a significant impact, the total construction emissions were amortized over the life of the Project and measured against the MDAQMD threshold. Amortization of the construction emissions over the assumed 30-year life of the Project would result in a contribution of about 153 metric tons of CO_2e per year. GHG emissions due to construction would not represent a substantial source of GHG emissions and would be substantially less than the MDAQMD-recommended threshold of 100,000 metric tons per year of CO_2e.

Operation and Maintenance

Emissions associated with operations are estimated to be 98 metric tons per year of CO_2e, which is substantially less than the MDAQMD-recommended threshold of 100,000 metric tons per year of CO_2e. Therefore, operational emissions would not exceed the GHG significance threshold during Project operations. It should be noted that the purpose of the Project is to provide electricity generation from a renewable resource. The Project would serve to meet the State's

goals for the Renewable Portfolio Standard (RPS), which has been identified by the State as a means of meeting the goals of AB 32 to reduce emissions to 1990 levels by the year 2030. The Project's operational emissions would therefore be offset by the Project's provision of renewable energy that would replace conventionally generated electricity in the service area.

As detailed in the Air Quality and Global Climate Change Technical Report (Appendix C), the Project is proposed to produce approximately 450 MW of electrical energy, which would be approximately 1,332,021 megawatt hours (MWh) of electrical energy per year. In comparison, GHG emissions were estimated for a conventional fossil-fuel combustion power plant producing the same electrical energy (kWh) per year as the Project facility. Data from the U.S. Department of Energy, the EPA, and the Electric Power Research Institute provided GHG production rates per MWh. GHG emissions from the most efficient combined cycle gas turbine power plant and a coal-fired power plant were calculated based on 0.35 and 1.0 metric tons of CO_2e per MWh of electricity produced by gas turbine and coal-fired plants, respectively. Gas turbine and coal-fired plants are estimated to produce approximately 450,858 and 1,288,167 metric tons of CO_2e, respectively. Operation of the Project would result in a substantial net displacement of GHG emissions in the region with the implementation of the Project's solar facility, when compared to a conventional fossil-fuel combustion power plant.

Decommissioning

Decommissioning of the PVMSP would require removal of the solar equipment and facilities (including gen-tie structures) and transportation of all components off site. Equipment used for decommissioning would generally be similar to that used for construction, although the overall short-term GHG emissions during decommissioning would be much less in comparison to construction GHG emissions. Supporting this conclusion is the fact that decommissioning would occur after at least 30 years of operation and it is likely that equipment engine technology would be more advanced and fuels would be cleaner. Conservatively, it is estimated that the annual GHG emissions for decommissioning would be equal to the construction GHG emissions.

Total GHG from All Phases

Adding the construction, operations, and decommissioning GHG emissions, amortized over the life of the Project (30 years), the total GHG emissions from the Project are estimated to be approximately 404 metric tons of CO_2e annually, which remains substantially less than the MDAQMD-recommended threshold of 100,000 metric tons per year of CO_2e. Also, as noted above, the Project would result in a net GHG displacement or off-set, which would be the difference between the annual operational GHG emissions associated with the Palo Verde Mesa Solar Project and the emissions associated with operation of a conventional power plant. The Project would result in a net GHG displacement through the replacement of fossil-fuel generated electricity with solar electricity of from 450,454 to 1,287,763 metric tons of CO_2e. Operation of the Palo Verde Mesa Solar Project would therefore result in a substantial net reduction (displacement) in GHG emissions in the region with the implementation of the Project's solar facility, when compared to a conventional fossil-fuel combustion power plant. The Project's construction and operational emissions would therefore be offset by the Project's provision of renewable energy that would replace conventionally-generated electricity in the service area.

Because the Project's construction GHG emissions are temporary, and the Project's long-term operational GHG emissions are less than significant, and the Project would result in a reduction in GHG emissions, the Project is therefore consistent with the goals of AB 32 and impacts to global climate are less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

3.7.7 Cumulative Impacts

The potential effects of proposed GHG emissions are by nature global and are cumulative in scope. As individual sources, GHG emissions are not large enough to have an appreciable effect on climate change. The impact of proposed Project's GHG emissions on climate change, as discussed previously in this section, includes the summation of construction, operations, and decommissioning GHG emissions amortized over the life of the Project (30 years) which are estimated to be approximately 404 metric tons of CO_2e annually. This impact would not by itself contribute to a cumulative GHG impact and would be more than offset by the GHG reductions associated with the clean, solar-powered energy the Project would produce.

By their nature, GHG emissions impacts are cumulative, as GHG emissions are aggregated across the global atmosphere and cumulatively contribute to climate change. Since GHG emission impacts are considered to be global effects, the Earth's atmosphere is used as the geographic scope for analysis of GHG emissions impacts.

The temporal scope refers to the duration over which GHG impacts would occur. Given that GHG concentrations in the Earth's atmosphere can lead to global climate change, which has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns, there is currently no way to determine a definitive timeline wherein the full scale of consequences may occur from GHG impacts. Thus, it is not possible to determine the specific impact on global climate change from GHG emissions associated with the PVMSP over the life of the Project.

As discussed above, the proposed Project would contribute approximately 404 metric tons of CO2e annually, which would not contribute to a cumulative GHG impact. Lower levels of GHG emissions would be anticipated during decommissioning due to the decreased level of activity, as well as technological and regulatory advances designed to reduce CO2 emissions that would be implanted over the life of the Project. While air impacts were analyzed as "net" new emissions for purposes of the Project-specific analysis, it is important to recognize that, as a renewable energy Project, the PVMSP has a net benefit on climate change by reducing the State's reliance on non-renewable energy sources. Construction, operation, maintenance, and decommissioning of the PVMSP would also avoid the GHG emissions associated with the current on-site agricultural activities, which would be more intensive than those associated with the proposed Project. GHG

reduction associated with the PVMSP was estimated to range from 450,454 to 1,287,763 metric tons of CO2e per year (Impact GHG-1).

While in the near-term, solar facilities such as the PVMSP would tend to offset facilities serving peak loads rather than baseline loads served by large fossil-fuel plants, GHG emissions from future fossil fuel plants serving peak loads, typically natural gas-fired plants, would nevertheless be offset and CO2 emissions on a per-average megawatt basis from non-renewable sources such as natural gas are exponentially higher than the incremental annual emissions from the proposed Project. Further, the CARB has identified implementation of the RPS as an integral part of AB 32. According to the AB 32 Scoping Plan, implementation of the RPS will contribute to a 21.3 MMTCO2e reduction in GHG emissions by 2030 by reducing the State's reliance on fossil-fuel and natural gas-fired plants. The proposed Project is being designed and implemented in part to assist in achieving the RPS, and therefore the State's GHG reduction goals.

Since GHG emissions are aggregated across the global atmosphere and cumulatively contribute to climate change, it is not possible to determine the specific impact on global climate change from GHG emissions associated with the proposed Project presented, or in conjunction with the identified cumulative projects. As noted in the analysis, however, the proposed Project would contribute approximately 404 metric tons of CO2e annually over the life of the Project, which would not contribute to a cumulative GHG impact. Therefore, implementation of the proposed PVMSP would likely lead to a net reduction in GHG emissions in the State overall, and thus a net benefit to global climate change, by displacing GHG emissions from non-renewable power sources. Implementation of the proposed Project would also assist the State in implementing the GHG reduction goals established in AB 32. In summary, it is likely that the PVMSP would have a net benefit on GHG emissions; therefore, the PVMSP would not result in cumulatively considerable impact to global climate change when considered with other closely related past, present, and reasonably foreseeable probable future projects.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

3.7.8 Mitigation Measures

No mitigation measures are required.

3.8 Hazards and Hazardous Materials

This section describes the environmental setting and regulatory framework in regards to hazards and hazardous materials for the proposed Project. Please refer to Section 3.6, *Geology, Soils and Mineral Resources,* for a discussion regarding seismic hazards, and Section 3.9, *Hydrology and Water Quality*, for a discussion regarding flooding hazards.

This section focuses on hazardous materials and hazards that have the potential to adversely affect the implementation of the proposed project such as encountering legacy contaminants or resulting in accidental releases or emissions of hazardous materials. Measures are identified to reduce or avoid adverse impacts anticipated from construction, operation, maintenance, and decommissioning of the PVMSP.

Various other hazards associated with the Project, such as exposure to electric and magnetic fields, interference with radio-frequency communications, hazardous shocks, fire hazards (non-wildland/operational), and valley fever are also briefly discussed.

3.8.1 Environmental Setting

One consideration for hazardous materials analysis is the proximity of sensitive receptors, such as residences, schools, daycare centers, emergency response facilities, and long-term care facilities. The Project site is primarily comprised of agricultural fields (drip-irrigated citrus orchards, non-irrigated wheat, and fallow agricultural fields). The gen-tie line corridor consists of agricultural fields and undeveloped disturbed lands. There are 223 residences within one mile of the solar facility site. Nine individual residences are within 1,000 feet of the solar facility and gen-tie line. The closest residence is approximately 230 feet away south of the solar facility boundary and adjacent to an area of the Project that is proposed to contain solar arrays. In addition, the gen-tie line is approximately 0.7 mile (3,800 feet) from the Mesa Verde Park and approximately 1.25 miles (6,600 feet) from the Roy Wilson Community and Child Center. The closest occupied residence to the Project's proposed gen-tie line is approximately 0.07 mile (387 feet); the closest unoccupied mobile home is approximately 0.4 mile (1,960 feet). Palo Verde College is located approximately 0.5 mile to the east of the solar facility boundary, and the Blythe Municipal Golf Course is located approximately 1.5 miles to the northeast of the solar facility boundary. No other schools, hospitals, or long-term care facilities are located in the Project area.

Environmental Site Assessment

Land use adjacent to the Project area is primarily undeveloped disturbed land and agricultural, utility, and residential uses. Agricultural operations may involve the use of fuels, oils and greases, pesticides and herbicides, and fertilizers. Pesticides, herbicides, and fertilizers are typically applied directly to the soil or the crops in soil, and potential releases of fuels, oils, and greases can occur through spills and leaks from equipment or storage tanks.

The potential to encounter hazardous materials in the soil is based upon review of the regulatory agency database search on the State Water Resources Control Board Geotracker website as well

as what was discovered during the Phase I Environmental Site Assessment performed for the Project (SWRCB, 2012;Kennedy Jenks, 2012). The Geotracker website identifies the following types of environmental cases: leaking underground storage tank (LUST) sites; land disposal sites; military sites; permitted underground storage tank (UST) facilities; and permitted hazardous waste generators. As listed in **Table 3.8-1**, a total of four cases were identified within one mile of the Project area, of which two are underground storage tanks and two are land disposal sites. In addition, according to the DTSC Hazardous Waste and Substances site database, no hazardous waste facilities are located on the proposed Project area (DTSC, 2012).

TABLE 3.8-1
ACTIVE HAZARDOUS SITES WITHIN ONE MILE OF THE PROPOSED PROJECT

Site	Distance from the Project Area	ID	Site Type	Location
Southern California Gas Company	0.77 mile from the gen-tie line	83665	UST	13100 W. 14th Ave. Blythe, CA 92225
Quik Chek West	0.68 mile from the gen-tie line	612	UST	14021 W. Hobson Way Blythe, CA 92225
Blythe Energy Project 02-012	Adjacent to the gen-tie line	L10008442717	Land Disposal	15560 West Hobson Way Blythe, CA 92226
Blythe Energy Project Phase II	Adjacent to the gen-tie line	L10003117410	Land Disposal	15560 West Hobson Way Blythe, CA 92225

SOURCE: State Water Resources Control Board, 2012.

However, according to the Phase I report, approximately 80 underground storage tanks (USTs) that once operated the wind turbines in the farmed land of the Project site were removed in the early 1990s (Kennedy Jenks, 2012). Any remaining turbines at the site are now powered by propane above ground tanks. Reportedly, residual fuel constituents were identified in soils beneath the Subject Property in association with 44 of the former USTs, however, the Colorado River Basin Regional Water Quality Control Board (RWQCB) reviewed the tank closure reports and granted a status of “no further action required” indicating that the levels detected did not represent a potential threat human health or the environment (Kennedy Jenks, 2012).

Airport Operations

The Blythe Airport is located to the south and west of the proposed solar facility site. The gen-tie line would be located north, east, and south of the Blythe Airport. The airport is a public facility, owned by Riverside County and managed by the City of Blythe. The 3,094-acre airport is the largest in eastern Riverside County and serves primarily general aviation demand in the Blythe area. The Airport is classified in the National Plan of Integrated Airport Systems as a general aviation transport airport, designed to accommodate business jets, cargo-type aircraft, light private planes, and flight school training activities. The Blythe Airport currently has two runways (8/26 and 17/35). The primary runway is Runway 8/26, which is oriented generally east-west. Aircraft operations average 69 flights per day (AirNav, 2012). The airport is often used as a base

for crop spraying operations, flight rental, and flight instruction (County of Riverside, 2003-2008b).

The proposed Project would be located within the area covered by the Riverside County Airport Land Use Compatibility Plan (RCALUCP), which was adopted by the Riverside County Airport Land Use Commission (ALUC) in 2004 and replaced the compatibility plans for individual airports. The RCALUCP identifies Airport Influence Areas (AIAs) to protect the public from the adverse effects of aircraft noise, ensure that facilities and people are not concentrated in areas susceptible to aircraft accidents, and ensure that no structures or activities adversely affect or encroach upon the use of navigable airspace (ALUC, 2012).

The proposed Project would be located within the Blythe AIA. According to the RCALUCP Appendix K, Compatibility Guidelines for Specific Land Uses, electrical facilities (such as power plants, electrical substations, and transmission lines) located in airport land use compatibility zones must meet the restrictions designated for each zone so that they are generally compatible or potentially compatible. This is to ensure that electrical facilities do not create obstructions to the navigable air space and safe operations at the airport. Land uses, concentrations of population, and height of proposed development within this AIA are restricted in certain areas of the AIA and listed in Table 3.8-2.

As illustrated in **Figure 3.8-1**, the proposed Project (solar facility and gen-tie line) would fall within Airport Compatibility Zones B1, C, D, and E. The majority of the proposed Project's solar panel structures would be located within Zones D and E; no solar panels or above-ground structures would be placed in Zones B1 and C. Portions of the solar facility would be outside the Blythe AIA. The gen-tie lines poles would be approximately 77 to 120 feet in height and would traverse Zones D and E. The proposed towers would be similar in height to existing and planned transmission lines within the Blythe AIA. **Table 3.8-2** below lists the approximate tower heights by voltage for transmission lines in the Project area.

TABLE 3.8-2
APPROXIMATE TOWER HEIGHTS FOR TRANSMISSION LINES IN THE PROJECT AREA

Transmission Line Voltage	Approximate Tower Height
Planned 500 kV	125 to 200 feet
Existing 220 kV/230 kV	75 to 135 feet
Planned Blythe Mesa Solar Project 230 kV	85 to 125 feet
Proposed Palo Verde Mesa Solar Project 230 kV	*77 to 120 feet*
Existing 161 kV	60 to 80 feet
Existing 138 kV	60 to 80 feet

SOURCE: POWER, Blythe 230 kV Transmission Line, and Devers-Palo Verde No. 2 Transmission Project Final EIR/EIS

Electric and Magnetic Fields

Electromagnetic fields (EMFs) are associated with electromagnetic radiation, which is energy in the form of photons. Radiation energy spreads as it travels and has many natural and human-made sources. The electromagnetic spectrum, the scientific name given to radiation energy, includes light, radio waves, and x-rays, among other energy forms. Electric and magnetic fields are common throughout nature and are produced by all living organisms. Concern over EMF exposure, however, generally pertains to human-made sources of electromagnetism and the degree to which they may have adverse biological effects or interfere with other electromagnetic systems.

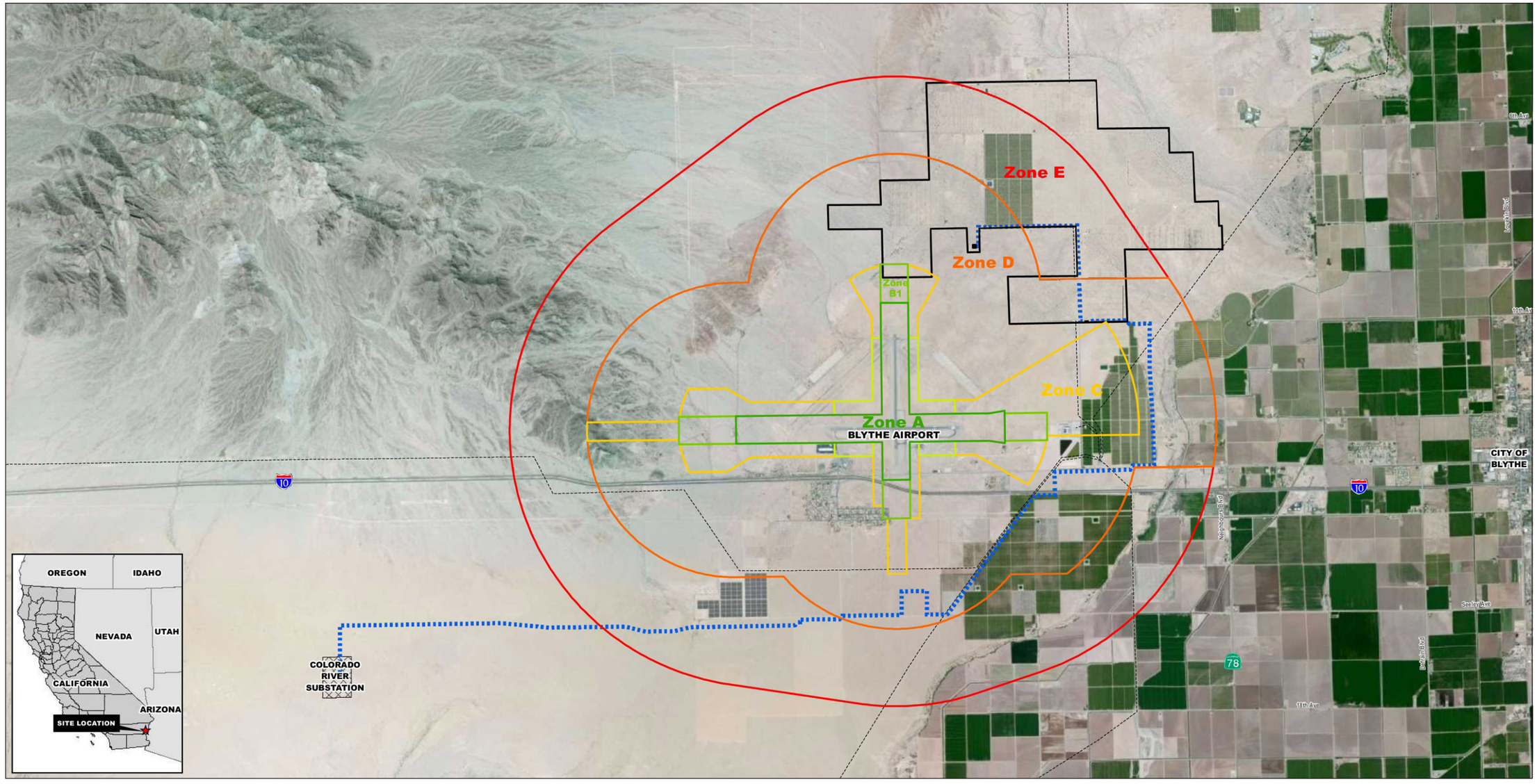
Commonly known human-made sources of EMF are electrical systems, such as electronics and telecommunications, as well as electric motors and other electrically powered devices. Radiation from these sources is invisible, non-ionizing, and of low frequency. Generally, in most environments, the levels of such radiation added to natural background sources are low.

Electric voltage (electric field) and electric current (magnetic field) from transmission lines create EMFs. Power frequency EMF is a natural consequence of electrical circuits and can be either directly measured using the appropriate measuring instruments or calculated using appropriate information.

On January 15, 1991, the California Public Utilities Commission (CPUC) initiated an investigation to consider its role in mitigating the health effects, if any, of electric and magnetic fields from utility facilities and power lines. A working group of interested parties, the California EMF Consensus Group, was created by the CPUC to advise it on this issue. The California EMF Consensus Group's fact-finding process was open to the public, and its report incorporated public concerns. Its recommendations were filed with the CPUC in March 1992. Based on the work of the California EMF Consensus Group, written testimony, and evidentiary hearings, CPUC's decision (93-11-013) was issued on November 2, 1993, to address public concern about possible EMF health effects from electric utility facilities. In August of 2004, the CPUC opened an Order Instituting Rulemaking to update the Commission's policies and procedures related to electric and magnetic fields emanating from regulated utility facilities. The final decision was issued in D.06-01-042. The conclusions and findings included the following:

> "We find that the body of scientific evidence continues to evolve. However, it is recognized that public concern and scientific uncertainty remain regarding the potential health effects of EMF exposure. We do not find it appropriate to adopt any specific numerical standard in association with EMF until we have a firm scientific basis for adopting any particular value."

This continues to be the stance of the CPUC regarding standards for EMF exposure. In the twenty-two years since the decision was issued, the State has not determined that any risk would merit adoption of any specific limits or regulations regarding EMF levels from electric power facilities. In the interim, the CPUC D.06-01-042 decision requires that no-cost and low-cost steps be incorporated into project design to reduce EMF. The decision directs that no-cost mitigation measures be undertaken, and that low-cost options be implemented through the project certification process. Four percent of total project budgeted cost is the benchmark in developing EMF mitigation guidelines, and mitigation measures should achieve some noticeable reductions.



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.8-1
Airport Compatibility Zones

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3.8.2 Regulatory Setting

Federal

Resource Conservation and Recovery Act of 1976 (42 USC 6901 et seq.)

The Resource Conservation and Recovery Act (RCRA) grants authority to the EPA to control hazardous waste from start to finish. This covers the production, transportation, treatment, storage, and disposal of hazardous waste. The RCRA also sets forth a framework for the management of non-hazardous solid waste. The 1986 amendments to the RCRA enabled the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Federal Water Pollution Control Act (Clean Water Act)

The Federal Water Pollution Control Act, better known as the Clean Water Act (CWA), is a comprehensive statute focused on restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. Originally enacted in 1948, the CWA was amended numerous times until it was reorganized and expanded in 1972. It continues to be amended almost on an annual basis.

Primary authority for the implementation and enforcement of the CWA rests with the EPA. The CWA authorizes water quality programs, requires federal effluent limitations and state water quality standards, requires permits for the discharge of pollutants into navigable waters, provides enforcement mechanisms, and authorizes funding for wastewater treatment works construction grants and state revolving loan programs, as well as funding to states and Tribes for their water quality programs. Provisions have also been added to address water quality problems in specific regions and specific waterways. The Project would be subject to a National Pollutant Discharge Elimination System (NPDES) Construction General Permit during construction and a General Industrial Permit during operations and maintenance to address water quality.

Occupational Safety and Health Act

Congress passed the Occupational Safety and Health Act (OSHA) to ensure safe and healthful working conditions for working men and women. OSHA authorized enforcement of the standards developed under the Act and assisted states in their efforts to ensure safe and healthful working conditions. OSHA also provides for research, information, education, and training in the field of occupational safety and health. The Project would be subject to OSHA requirements during construction, operations and maintenance, and decommissioning.

Federal Aviation Administration (FAA) Regulations Part 77

FAA Regulations, 14 CFR Part 77, establish standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for evaluating the effects of construction or alteration on operating procedures; determining the potential hazardous effect of the proposed construction on air navigation; identifying mitigation measures to enhance safe air navigation; and charting of new objects.

These regulations apply to the following:

- Any construction or alteration exceeding 200 feet above ground level;
- Any construction or alteration:
  - within 20,000 feet of a public use or military airport that exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 feet long
  - within 10,000 feet of a public use or military airport that exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 feet long
  - within 5,000 feet of a public use heliport that exceeds a 25:1 surface;
- Any highway, railroad, or other traverse way whose prescribed adjusted height would exceed the above-noted standards:
  - when requested by the FAA; and
  - any construction or alteration located on a public use airport or heliport regardless of height or location.

FAA Advisory Circular No. 70/7460-1G

FAA Advisory Circular No. 70/7460-1G, "Proposed Construction and/or Alteration of Objects that May Affect the Navigation Space," identifies the need to file the "Notice of Proposed Construction or Alteration" form (Form 7640) with the FAA in cases of potential for an obstruction hazard. The proposed Project includes towers to support the gen-tie line that could be between 85 and 125 feet in height.

Title 47, CFR, Section 15.2524, Federal Communications Commission

Title 47, CFR, Section 15.2524, Federal Communications Commission prohibits operation of devices that can interfere with radio-frequency communication. The proposed gen-tie line, as a high-voltage gen-tie line, represents a potential source of radio-frequency communication interference.

State

California Environmental Protection Agency

The California Environmental Protection Agency (Cal EPA) and the State Water Resources Control Board establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable State and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Department of Toxic Substances Control

The Department of Toxic Substances Control (DTSC) has primary regulatory responsibility for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law. Enforcement is delegated to local jurisdictions that enter into agreements with the DTSC.

California's Secretary of Environmental Protection established a unified hazardous waste and hazardous materials management regulatory program as required by Health and Safety Code Chapter 6.11. The unified program consolidates, coordinates, and makes consistent portions of the following six existing programs:

- Hazardous Waste Generations and Hazardous Waste On- site Treatment
- Underground Storage Tanks
- Hazardous Material Release Response Plans and Inventories
- California Accidental Release Prevention Program
- Aboveground Storage Tanks (spill control and countermeasure plan only)
- Uniform Fire Code Hazardous Material Management Plans and Inventories

The statute requires all counties to apply to the Cal EPA Secretary for the certification of a local unified program agency. Qualified cities are also permitted to apply for certification. The local Certified Unified Program Agency (CUPA) is required to consolidate, coordinate, and make consistent the administrative requirements, permits, fee structures, and inspection and enforcement activities for these six program elements within the county. Most CUPAs have been established as a function of a local environmental health or fire department.

The Office of the State Fire Marshal participates in all levels of the CUPA program including regulatory oversight, CUPA certifications, evaluations of the approved CUPAs, training, and education. The Riverside County Department of Environmental Health serves as the CUPA in Riverside County.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the State hazardous waste management program, which is similar to but more stringent than the federal RCRA program. The act is implemented by regulations contained in Title 26 of the CCR, which describes the following required aspects for the proper management of hazardous waste:

- Identification and classification;
- generation and transportation;
- design and permitting of recycling, treatment, storage, and disposal facilities;
- treatment standards;
- operation of facilities and staff training; and
- closure of facilities and liability requirements.

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the DTSC.

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

Title 8, California Code of Regulations, Section 2700 et seq. "High Voltage Safety Orders"

Title 8 of the CCR specifies requirements and minimum standards for safety when installing, operating, working around, and maintaining electrical installations and equipment. The proposed Project would be subject to Title 8.

National Electrical Safety Code

The National Electrical Safety Code specifies grounding procedures to limit nuisance shocks and specifies minimum conductor ground clearances. The proposed Project would be subject to this code and would be designed with a grounding system providing an adequate path to ground to permit the dissipation of current created by lightning and ground faults.

14 California Code of Regulations, Sections 1250 – 1258, "Fire Prevention Standards for Electric Utilities"

14 CCR provides specific exemptions from electric pole and tower firebreak. 14 CCR also provides conductor clearance standards and specifies when and where standards apply. These standards address hazards that could be caused by sparks from conductors of overhead lines, or that could result from direct contact between the line and combustible objects. The proposed Project would be subject to these standards.

Local

Riverside County General Plan (2015)

The Riverside County General Plan Safety Element provides policies for development of the Project area within Riverside County. In compliance with State law, the primary objective of the Safety Element is to "reduce death, injuries, property damage, and economic and social impact from hazards." Countywide policies that address health and safety within the County boundaries are also located in the Land Use Element of the County General Plan.

Safety Element (S)

Fire Hazards – Building Code & Performance Standards

Policy S 1.1. Mitigate hazard impacts through adoption and strict enforcement of current building codes, which will be amended as necessary when local deficiencies are identified.

Policy S 5.1. Develop and enforce construction and design standards that ensure that proposed development incorporates fire prevention features through the following:

a. All proposed development and construction within Fire Hazard Severity Zones shall be reviewed by the Riverside County Fire and Building and Safety departments.

b. All proposed development and construction shall meet minimum standards for fire safety as defined in the Riverside County Building or County Fire Codes, or by County zoning, or as dictated by the Building Official or the Transportation Land Management Agency based on building type, design, occupancy, and use.

c. In addition to the standards and guidelines of the California Uniform Building Code and California Uniform Fire Code fire safety provisions, continue *to implement* additional standards for high-risk, high occupancy, dependent, and essential facilities where appropriate under the Riverside County Fire *Code (Ordinance No. 787)* Protection Ordinance. These shall include assurance that structural and nonstructural architectural elements of the building will not impede emergency egress for fire safety staffing/personnel, equipment, and apparatus; nor hinder evacuation from fire, including potential blockage of stairways or fire doors.

d. Proposed development and construction in Fire Hazard Severity Zones Hazardous Fire areas shall provide secondary public access, unless otherwise determined by the Riverside County Fire Chief.

Accordance with Riverside County Ordinances.

e. Proposed development and construction in Fire Hazard Severity Zones Hazardous Fire areas shall use single loaded roads to enhance fuel modification areas, unless otherwise determined by the Riverside County Fire Chief.

f. Proposed development and construction in Fire Hazard Severity Zones shall provide a defensible space or fuel modification zones to be located, designed, and constructed that provide adequate defensibility from wildfires.

Policy S 5.4. Limit or prohibit development or activities in areas lacking water and access roads.

Policy S 5.5. Encourage proposed development in Fire Hazard Severity Zones to develop where fire and emergency services are available or planned.

Policy S 5.6. Demonstrate that the proposed development can provide fire services that meet the minimum travel times identified in Riverside County Fire Department Fire Protection and EMS Strategic Master Plan.

Policy S 5.7. Minimize pockets of flammable vegetation that increase likelihood of fire spread through conceptual landscaping plans to be reviewed by Planning and Fire Departments in the Fire Hazard Severity Zones. The conceptual landscaping plan of the proposed development shall at a minimum include:

a. Plant palette suitable for high fire hazard areas to reduce the risk of fire hazards.

b. Retention of existing natural vegetation to the maximum extent feasible.

c. Removal of onsite combustible plants.

Policy S 5.8. Design to account for topography of a site and reduce the increased risk from fires in the Fire Hazard Severity Zones located near ridgelines, plateau escarpments, saddles, hillsides, peaks, or other areas where the terrain or topography affect its susceptibility to wildfires by:

a. Providing fuel modification zones with removal of combustible vegetation, but minimizing visual impacts and limiting soil erosion.

b. Replacing combustible vegetation with fire resistant vegetation to stabilize slopes.

c. Submitting topographic map with site specific slope analysis.

d. Submitting erosion and sedimentation control plans.

e. Providing a minimum 30 foot of setback from the edge of the fuel modification zones.

f. Minimizing disturbance of 25% or greater natural slopes.

Hazardous Waste & Materials – Hazardous Waste Management Plan

Policy S 6.1. Enforce the land use policies and siting criteria related to hazardous materials and wastes through and continued implementation of implement the programs identified in the County of Riverside Hazardous Waste Management Plan including the following:

a. Ensure county businesses comply with federal, state and local laws pertaining to the management of hazardous wastes and materials including all Certified Unified Program Agency (CUPA) programs.

b. Ensure active public participation in hazardous waste and hazardous materials management decisions in Riverside County through the County's land use and planning processes.

c. Encourage and promote the programs, practices, and recommendations contained in the Riverside County Hazardous Waste Management Plan, giving the highest waste management priority to the reduction of hazardous waste at its source.

Policy S 7.3. Require commercial businesses, utilities, and industrial facilities that handle hazardous materials to: install automatic fire and hazardous materials detection, reporting and shut-off devices; and install an alternative communication system in the event power is out or telephone service is saturated following an earthquake.

Land Use Element (LU)

Policy LU 5.2. Monitor the capacities of infrastructure and services in coordination with service providers, utilities, and outside agencies and jurisdictions to ensure that growth does not exceed acceptable levels of service.

Policy LU 15.9. Ensure that no structures or activities encroach upon or adversely affect the use of navigable airspace.

Palo Verde Valley Area Plan

PVVAP 14.1. Protect life and property from wildfire hazards through adherence to the Fire Hazards section of the General Plan Safety Element.

Riverside County Airport Land Use Compatibility Plan

The Riverside County Airport Land Use Compatibility Plan (RCALUCP) sets forth the criteria and policies that the Riverside County Airport Land Use Commission (ALUC) uses in assessing the compatibility between the principal airports in Riverside County and proposed land use development in the areas surrounding them. The RCALUCP primarily deals with review of local general plans, specific plans, zoning ordinances, and other land use documents covering broad geographic areas. Certain individual land use development proposals also may be reviewed by the ALUC as provided in the policies identified in the RCALUCP. The ALUC does not have authority over existing incompatible land uses or the operation of any airport.

The ALUC adopts Airport Land Use Compatibility Plans for the areas surrounding the airports within its jurisdiction. Local development approvals must be found consistent with the RCALUCP unless approved by a $4/5^{th}$ supermajority vote. The RCALUCP identifies AIAs to protect the public from the adverse effects of aircraft noise, ensure that facilities and people are not concentrated in areas susceptible to aircraft accidents, and ensure that no structures or activities adversely affect or encroach upon the use of navigable airspace (ALUC, 2012). The Compatibility Plan for Blythe Airport is based upon the Airport Master Plan adopted by the Riverside County Board of Supervisors in 2001.

The following RCALUCP county-wide policies are applicable to the proposed Project:

Policy 1.5.2. Other Land Use Actions Subject to ALUC Review: In addition to the above types of land use actions for which ALUC review is mandatory, other types of land use actions are subject to review under the following circumstances:

a) Until such time as (1) the Commission finds that a local agency's general plan or specific plan is consistent with the *Airport Land Use Compatibility Plan*, or (2) the local agency has overruled the Commission's determination of inconsistency, state law provides that the ALUC may require the local agency to refer all actions, regulations, and permits involving land within an airport influence area to the Commission for review (Public Utilities Code Section 21676.5(a)). Only those actions that the ALUC elects not to review are exempt from this requirement.

Commission policy is that only the *major land use actions* listed in Policy 1.5.3 shall be submitted for review.

b) After a local agency has revised its general plan or specific plan (see Section 3.2) or has overruled the Commission, the Commission no longer has authority under state law to require that all actions, regulations, and permits be referred for review. However, the Commission and the local agency can agree that the Commission should continue to review individual projects in an advisory capacity.

   (1) The Commission requests local agencies to continue to submit major land use actions as listed in Policy 1.5.3. ALUC review of these types of projects can serve to enhance their compatibility with airport activity.

c) Proposed redevelopment of a property for which the existing use is consistent with the general plan and/or specific plan, but nonconforming with the compatibility criteria set forth in this plan, shall be subject to ALUC review. This policy is intended to address circumstances that arise when a general or specific plan land use designation does not conform to ALUC compatibility criteria, but is deemed consistent with the compatibility plan because the designation reflects an existing land use. Proposed redevelopment of such lands voids the consistency status and is to be treated as new development subject to ALUC review even if the proposed use is consistent with the local general plan or specific plan. (Also see Policies 3.3.2 and 3.3.3.)

d) Proposed land use actions covered by Paragraphs (a), (b), and (c) above shall initially be reviewed by the ALUC Executive Director. If the Executive Director determines that significant compatibility issues are evident, the proposal shall be forwarded to the Commission for review and decision. The Commission authorizes the Executive Director to approve proposed actions having no apparent compatibility issues of significance.

Policy 1.5.3. Major Land Use Actions: The scope or character of certain major land use actions, as listed below, is such that their compatibility with airport activity is a potential concern. Even though these actions may be basically consistent with the local general plan or specific plan, sufficient detail may not be known to enable a full airport compatibility evaluation at the time that the general plan or specific plan is reviewed. To enable better assessment of compliance with the compatibility criteria set forth herein, ALUC review of these actions may be warranted. The circumstances under which ALUC review of these actions is to be conducted are indicated in Policy 1.5.2 above**.**

a) Actions affecting land uses within any compatibility zone.

   (1) Any proposed expansion of the sphere of influence of a city or special district.

   (2) Proposed pre-zoning associated with future annexation of land to a city.

   (3) Proposed development agreements or amendments to such agreements.

(4) Proposed residential development, including land divisions, consisting of five or more dwelling units or lots.

(5) Any discretionary development proposal for projects having a building floor area of 20,000 square feet or greater unless only ministerial approval (e.g., a building permit) is required.

(6) Major capital improvements (e.g., water, sewer, or roads) which would promote urban uses in undeveloped or agricultural areas to the extent that such uses are not reflected in a previously reviewed general plan or specific plan.

(7) Proposed land acquisition by a government entity for any facility accommodating a congregation of people (for example, a school or hospital).

(8) Any off-airport, non-aviation use of land within Compatibility Zone A of any airport.

(9) Proposals for new development (including buildings, antennas, and other structures) having a height of more than:

- 35 feet within Compatibility Zone B1, B2, or a Height Review Overlay Zone;
- 70 feet within Compatibility Zone C; or
- 150 feet within Compatibility Zone D or E.

(10) Any obstruction reviewed by the Federal Aviation Administration in accordance with Part 77 of the Federal Aviation Regulations that receives a finding of anything other than "not a hazard to air navigation."

(11) Any project having the potential to create electrical or visual hazards to aircraft in flight, including:

- Electrical interference with radio communications or navigational signals;
- Lighting which could be mistaken for airport lighting;
- Glare in the eyes of pilots of aircraft using the airport; and
- Impaired visibility near the airport.

(12) Projects having the potential to cause attraction of birds or other wildlife that can be hazardous to aircraft operations to be increased within the vicinity of an airport.

b) Proposed non-aviation development of airport property if such development has not previously been included in an airport master plan or community general plan reviewed by the Commission. (See Policy 1.2.5 for definition of aviation-related use.)

c) Regardless of location within Riverside County, any proposal for construction or alteration of a structure (including antennas) taller than 200 feet above the ground level at the site. (Such structures also require notification to the Federal Aviation

Administration in accordance with Federal Aviation Regulations, Part 77, Paragraph 77.13(a)(1).)

d) Any other proposed land use action, as determined by the local planning agency, involving a question of compatibility with airport activities.

Policy 3.1.4. Nonresidential Development: The compatibility of nonresidential development shall be assessed primarily with respect to its usage intensity (the number of people per acre) and the noise-sensitivity of the use. Additional criteria listed in Table 2A shall also apply.

a) The total number of people permitted on a project site at any time, except for rare special events, must not exceed the indicated usage intensity times the gross acreage of the site.

   (1) Usage intensity calculations shall include all people (e.g., employees, customers/ visitors, etc.) who may be on the property at any single point in time, whether indoors or outside.

   (2) Rare special events are ones (such as an air show at an airport) for which a facility is not designed and normally not used and for which extra safety precautions can be taken as appropriate.

b) No single acre of a project site shall exceed the number of people per acre indicated in Policy 4.2.5(b) and listed in Table 2A unless special risk reduction building design measures are taken as described in Policy 4.2.6.

c) The noise exposure limitations cited in Policy 4.1.4 and listed in Table 2B shall be the basis for assessing the acceptability of proposed nonresidential land uses relative to noise impacts. The ability of buildings to satisfy the interior noise level criteria noted in Policy 4.1.6 shall also be considered.

Policy 3.1.5. Prohibited Uses: Regardless of usage intensity, certain types of uses are deemed unacceptable within portions of an airport influence area. See Policy 4.2.3 and Table 2A[Table 3.8-3 below]. In addition to these explicitly prohibited uses, other uses will normally not be permitted in the respective compatibility zones because they do not meet the usage intensity criteria.

Policy 3.1.6. Other Development Conditions: All types of proposed development shall be required to meet the additional conditions listed in Table 2A [**Table 3.8-3** below] for the respective compatibility zone where the development is to be located. Among these conditions are the following:

a) Aviation Easement Dedication: See Policy 4.3.5.

b) Deed Notice: See Policy 4.4.3.

c) Real Estate Disclosure: See Policy 4.4.2.

d) Noise Level Reduction: See Policy 4.1.6.

e) Airspace Review: See Policy 4.3.3.

Riverside County Hazardous Waste Management Plan

The Riverside County Hazardous Waste Management Plan (CHWMP) uses a framework of 24 existing and recommended programs. The CHWMP serves as the County's primary planning document for the management of hazardous substances. Although the title refers only to hazardous waste, the CHWMP is a comprehensive document containing all of the County programs for managing both hazardous materials and waste.

Southern California Hazardous Waste Management Authority

The Southern California Hazardous Waste Management Authority (SCHWMA) was formed through a joint powers agreement between Santa Barbara, Ventura, San Bernardino, Orange, San Diego, Imperial, and Riverside Counties and the Cities of Los Angeles and San Diego. Each SCHWMA county has agreed to take responsibility for the treatment and disposal of hazardous waste in an amount that is at least equal to the amount generated within that county. This responsibility can be met by siting hazardous waste management facilities (transfer, treatment, and/or repository) capable of processing an amount of waste equal to or larger than the amount generated within the county, or by creating intergovernmental agreements between counties to provide compensation to a county for taking another county's waste, or through a combination of both facility siting and intergovernmental agreements. When and where a facility is to be sited is primarily a function of the private market. However, once an application to site a facility has been received, the county will review the requested facility and its location against a set of established siting criteria to ensure that the location is appropriate, and may deny the application based on the findings of this review. The County of Riverside does not presently have any of these facilities within its jurisdiction and therefore must rely on intergovernmental agreements to fulfill its fair share responsibility to SCHWMA.

TABLE 3.8-3
BASIC COMPATIBILITY CRITERIA

Zone	Locations	Maximum Densities/Intensities (people/ac)[1]		Required Open Land[4]	Prohibited Uses[5]	Other Development Conditions[6]
		Average[2]	Single Acre[3]			
B1	Inner Approach/ Departure Zone	25	50	30%	• Children's schools, day care centers, libraries • Hospitals, nursing homes • Places of worship • Buildings with >2 aboveground habitable floors • Highly noise-sensitive outdoor nonresidential uses • Aboveground bulk storage of hazardous materials • Critical community infrastructure facilities • Hazards to flight	• Locate structures maximum distance from extended runway centerline • Minimum NLR of 25 dB in residences (including mobile homes) and office buildings • Airspace review required for objects >35 feet tall • Navigation easement dedication
C	Extended Approach/ Departure Zone	75	150	20%	• Children's schools, day care centers, libraries • Hospitals, nursing homes • Buildings with >3 aboveground habitable floors • Highly noise-sensitive outdoor nonresidential uses • Hazards to flight	• Minimum of NLR of 20 dB in residences (including mobile homes) and office buildings • Airspace review required for objects >70 feet tall • Aviation easement dedication
D	Primary Traffic Patterns and Runway Buffer Area	100	300	10%	• Highly noise-sensitive outdoor nonresidential uses • Hazards to flight	• Airspace review required for objects >70 feet tall • Children's schools, hospitals nursing homes discouraged • Deed notice required
E	Other Airport Environs	No Limit	No Limit	No Requirement	• Hazards to flight	• Airspace review required for objects>100 feet tall • Major spectator-oriented sports stadiums, amphitheaters, concert halls discouraged beneath principal flight tracks

1. Usage intensity calculations shall include all people (e.g., employees, customers/visitors, etc.) who may be on the property at a single point in time, whether indoors or outside.
2. The total number of people permitted on a project site at any time, except rare special events, must not exceed the indicated usage intensity times the gross acreage of the site. Rare special events are ones (such as an air show at the airport) for which a facility is not designed and normally not used and for which extra safety precautions can be taken as appropriate.
3. Clustering of nonresidential development is permitted. However, no single acre of a project site shall exceed the indicated number of people per acre.
4. Open land requirements are intended to be applied with respect to an entire zone. This is typically accomplished as part of a community general plan or a specific plan, but may also apply to large (10 acres or more) development projects.
4. The uses listed here are ones that are explicitly prohibited regardless of whether they meet the intensity criteria. In addition to these explicitly prohibited uses, other uses will normally not be permitted in the respective compatibility zones because they do not meet the usage intensity criteria.
6. As part of certain real estate transactions involving residential property within any compatibility zone (that is, anywhere within an airport influence area), information regarding airport proximity and the existence of aircraft overflights must be disclosed. This requirement is set by state law.

SOURCE: Riverside County Airport Land Use Compatibility Plan Policy Document Table 2A, October 2004.

Riverside County Department of Environmental Health

The Riverside County Department of Environmental Health, under the Health and Safety Code, is responsible for oversight of activities pertaining to the generation, storage, handling, disposal, treatment, and recycling of hazardous waste. Ordinance No. 615.3 has been implemented for the purpose of monitoring establishments where hazardous waste is generated, stored, handled, disposed, treated, or recycled and to regulate the issuance of permits and the activities of establishments where hazardous waste is generated. The Department of Environmental Health also contains a Hazardous Materials Management Branch, which is the Certified Unified Program Agency (CUPA) for the entire County, and oversees all hazardous materials and hazardous waste-related activities.

Riverside County Brush Clearance

County of Riverside Ordinance No. 695 provides brush clearance requirements on unincorporated county land that are designed to reduce risks from wildland fires. The code requires that every owner, occupant, and person in control of any unimproved parcel of land clear vegetation on a 100-foot-wide strip of land at the boundary of the parcel adjacent to a roadway and/or a 100-foot-wide strip of land around any structures located on an adjacent improved parcel. The Riverside County Fire Department can require different clearance distances based upon a visual inspection of the parcel and factors including local weather conditions, fuel types, topography, and the environment where the property or adjoining structures are located.

City of Blythe General Plan 2025

Policies related to hazards included with the City of Blythe General Plan 2025 are provided below.

Safety Element

Policy 18: Identify facilities utilizing, storing, or transporting hazardous materials in Blythe.

Policy 19: Ensure that new facilities involved with handling hazardous materials are located at a safe distance from other land uses that may be adversely affected by this activity.

Policy 20: Apply, as appropriate, provisions of the Riverside County Hazardous Waste Management Plan to decisions involving hazardous materials in Blythe.

Policy 21: Coordinate enforcement of the Hazardous Materials Disclosure Law with the City of Blythe Fire Department.

Policy 23: Minimize the impact of transportation related accidents involving hazardous materials.

Policy 25: Ensure that hazardous obstructions to the navigable airspace do not occur.

Policy 27: Minimize the risks associated with visual hazards including distracting lights, glare and sources of smoke.

EMF Recommendations and Standards

Several entities have developed guidelines for EMF exposure, including individual states, the Federal Communications Commission (FCC), the Institute of Electrical and Electronics Engineers (IEEE), and the American Conference of Governmental Industrial Hygienists (ACGIH). Neither the national nor state governments have regulations limiting EMF exposure from power transmission lines. However, the California EMF Program has been established by the California Public Utilities Commission's (CPUC) Decision 93-11-013. The program is a research, education, and technical assistance program concerned with the possible health effects of EMF from power lines, appliances, and other uses of electricity. The California EMF Program's goal is to find a rational and fair approach to dealing with the potential risks, if any, of exposure to EMF (CaEMF, 2012).

The IEEE has developed guidelines for EMF exposure. The IEEE levels are recommendations only, not regulations. The IEEE Standard C95.6 recommends limits on exposures to magnetic fields, electric fields, and contact currents in the frequency range of 0 to 3000 hertz (Hz). Exposure limits are derived for both controlled (occupational, live-line workers) and uncontrolled (publicly accessible) environments, for uniform and non-uniform fields, and for whole-body and extremity exposures. The FCC's standards are mandatory for occupational exposure to EMF for FCC licensees and grantees and only cover the frequency range from 300 kHz to 100 GHz (FCC 1999). The ACGIH provides that occupational exposures should not exceed 10 Gauss (G) (10,000 mG). The ACGIH guideline level is intended to prevent effects, such as induced currents in cells or nerve stimulation. However, the ACGIH guidelines are for occupational exposure, not general public exposure (AIHA, 2002).

The United States does not have any regulations on EMF exposure; however, the European Union has developed EMF guidelines based on recommendations by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). The ICNIRP has made a series of recommendations for limiting EMF exposure to humans based on the epidemiological data available from verifiable research studies (ICNIRP, 1998). The ICNIRP EMF limits are presented in **Table 3.8-4.** Based on the ICNIRP's work, the EU has adopted these same standards for EMF exposure (Council Recommendation, 1999). While the guidelines are voluntary, the levels are designed to prevent undue health risks associated with EMF exposure.

TABLE 3.8-4
ICNIRP EMF LIMITS

Frequency	Electric Field Strength (V/M)	Magnetic field (μT)
Occupational: 60 Hz	10,000	1
Public: 60 Hz	5,000	200

V/m = volts per meter, f = frequency in Hertz
μT= microtesla

SOURCE: International Commission on Non-ionizing Radiation Protection, 1998

3.8.3 Methodology for Analysis

The hazardous materials analyzed include those potentially existing on the site and those that would be used as part of Project construction, operations and maintenance, and decommissioning. Potential existing hazards were assessed based on information contained on the State Water Resources Control Board Geotracker website (SWRCB, 2012) and the Phase I report for the Project (Kennedy/Jenks, 2012) inclusive of the parcels on-site and within a one-mile radius of the Project area.

Some hazardous materials would be used on a short-term basis during construction and decommissioning. Others would be stored on-site for use during operations and maintenance. Therefore, this analysis was conducted by examining the type and amount of chemicals to be used, the manner in which the Applicant would use the chemicals, the manner by which they would be transported to the facility, and the way in which the Applicant plans to store the materials on-site.

3.8.4 Applicable Best Management Practices

As part of the Project, the following applicable BMPs would minimize the environmental impacts associated with hazards and hazardous materials. The BMPs have been detailed below (see also **Table 2-4** in *Chapter 2*) and are further referenced (by number) within the impact discussion.

BMP-3 **Fugitive Dust Abatement Plan.** As required by the Mojave Desert Air Quality Management District Rule 403, a Fugitive Dust Abatement Plan would be prepared to address fugitive dust emissions during Project construction, operation, maintenance, and decommissioning. The plan would include measures to minimize fugitive dust emissions from wrecking, excavation, grading, clearing of land, and solid waste disposal operations, and would take every reasonable precaution to prevent visible particulate matter from being deposited upon public roadways as a direct result of operations. During construction, all unpaved roads, disturbed areas (e.g., areas of scraping, excavation, backfilling, grading, and compacting), and loose materials generated during Project construction activities would be watered as frequently as necessary to minimize fugitive dust generation. However, the amount of water will be minimized each time to prevent temporarily ponding water that may occur as a result of the fugitive dust plan. In water-deprived locations, water spraying would be limited to active disturbance areas only, and non-water-based dust control measures would be implemented in areas with intermittent use or use that is not heavy, such as stockpiles or access roads. The dust suppression measures would consider the sensitivity of wildlife to the windborne dispersal of fugitive dust containing dust suppressants and the potential impact on future reclamation.

The Dust Abatement Plan includes three specific measures (BMP 3.1 through BMP 3.3) as listed below:

BMP-3.1. The following signage shall be erected not later than the commencement of construction. A minimum 48 inch high by 96 inch wide sign

containing the following shall be located within 50 feet of each Project site entrance, meeting the specified minimum text height, black text on white background, on one inch A/C laminated plywood board, with the lower edge between six and seven feet above grade, with the contact name of a responsible official for the site and a local or toll-free number that is accessible 24 hours per day:

[Site Name]	{four inch text}
[Project Name/Project Number]	{four inch text}
IF YOU SEE DUST COMING FROM	{four inch text}
THIS PROJECT CALL	{four inch text}
[Contact Name], PHONE NUMBER XXX-XXXX	{six inch text}
If you do not receive a response, please call	{three inch text}
the MDAQMD at 1-800-635-4617	{three inch text}

BMP-3.2. For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization, durable polymeric soil stabilizers, or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from sand/fines deposits.

BMP-3.3. All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The owner/ operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule or project-specific biological mitigation prohibiting wind fencing.

BMP-9 **Hazardous materials.** As required by the Clean Air Act, Section 401 of the Clean Water Act, the Toxic Substance Control Act, and the Hazardous Materials Transportation Act, all vehicles and equipment must be in proper working condition to ensure that there is no potential for fugitive emissions or accidental release of motor oil, fuel, antifreeze, hydraulic fluid, grease, or other hazardous materials. Equipment must be checked for leaks prior to operation and repaired as necessary. Refueling of equipment must take place on existing paved roads, where possible, and not within or adjacent to drainages. Hazardous spills must be cleaned up immediately. Contaminated soil would be disposed of at an approved offsite landfill, and spills reported to the permitting agencies. Service/maintenance vehicles should carry appropriate equipment and materials to isolate and remediate leaks or spills, and an on-site spill containment kit for fueling, maintenance, and construction will be available.

Cleaning of construction vehicles at commercial car washes should be considered rather than washing vehicles on the Project area so that dirt, grease, and detergents are treated effectively at existing facilities designed to handle those types of wastes.

BMP-10 **Integrated Weed Management Plan.** In compliance with the Federal Noxious Weed Act and the Plant Protection Act, a Project-specific integrated weed management plan for the control of noxious weeds and invasive plant species would be prepared. The plan would identify presence, location, and abundance of weed species in the Project area and surrounding area adjacent to the Project, as well as identify suppression and containment measures to prevent the spread of weed species and introduction of weed species. Prevention techniques would include: limiting disturbance areas during construction to the minimum required to perform work; limiting ingress and egress to defined routes; maintaining vehicle wash and inspection stations; and closely monitoring the types of materials brought on-site to minimize the potential for weed introduction. During operations, noxious and invasive weed management will be incorporated as a part of mandatory site training for groundskeepers and maintenance personnel. Training will include weed identification and the impacts on agriculture, wildlife, and fire frequencies. Training will also cover the importance of preventing the spread of noxious weeds and of controlling the proliferation of existing weeds.

3.8.5 CEQA Significance Criteria

The criteria listed below from the CEQA Environmental Checklist, Appendix G of the 2012 CEQA Guidelines were used to determine if the proposed Project would cause or exacerbate hazards on or in the vicinity of the solar facility. While CEQA does not encompass a study of the environment on the Project, the criteria were also applied to determine whether the Project or any of its components would be exposed to substantial, existing risks. Under CEQA, the PVMSP would have a significant impact on hazards and hazardous materials if they would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (see Impact HAZ-1);
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (see Impact HAZ-2);
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (see Effects Not Found to Be Significant);
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment (see Effects Not Found to Be Significant);
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would result in a safety hazard for people residing or working in the project area (see Impact HAZ-3);
- For a project within the vicinity of a private airstrip, would result in a safety hazard for people residing or working in the project area (see Effects Not Found to Be Significant);
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (see Impact HAZ-4); or,

- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands (see Impact HAZ-5).

The following additional significance criteria from the County of Riverside Environmental Assessment Form are used in the analysis. A project could have potentially significant impacts if it would:

- Result in an inconsistency with an Airport Master Plan (see Effects Not Found to Be Significant); or
- Require review by the Airport Land Use Commission (see Impact HAZ-3).

Effects Found Not to Be Significant

It has been determined that the PVMSP would not result in impacts related to the following significance criteria:

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

No schools are located within one-quarter mile of the Project area; however, the Roy Wilson Community and Child Care Center is located approximately 1.25 miles from the Project area. The Project does not include land uses that would involve the routine use, storage, or transport of hazardous materials that represent a significant hazard to the public or the environment. Therefore, the Project would not result in hazardous emissions or require the handling of hazardous materials that would adversely affect any existing schools in the site vicinity; no impact would occur.

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

A database search was conducted for the Project and the results did not identify any hazardous materials sites in the Project area. The Project area was not identified specifically on the California Department of Toxic Substances and Control (DTSC) database. However, according to the Phase I report, the site once contained USTs associated with the former wind turbines located on a portion of the site. The USTs were removed and no further action was required by the overseeing agency, the RWQCB (Kennedy Jenks, 2012). As listed in Table 3.8-1, a total of four cases were identified within one mile of the Project area, of which two are registered underground storage tanks and two are land disposal sites which would not be considered likely to adversely affect the Project site. Therefore, no impact would occur.

- For a project within the vicinity of a private airstrip, would result in a safety hazard for people residing or working in the project area

The Project would not be within the vicinity of a private airstrip and therefore would not result in a safety hazard for people residing or working in the Project area. No impact would occur.

- Result in an inconsistency with an Airport Master Plan

In October 2012, the Riverside County Airport Land Use Commission (ALUC) found the Project to be consistent with the Riverside County Airport Land Use Compatibility Plan (RCALUCP). No impact would occur (See Appendix K).

3.8.6 Impact Analysis

Impact HAZ-1: The Project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. This impact would be *less than significant with mitigation incorporated.*

Construction

A variety of hazardous materials listed below would be used during construction of the proposed Project and stored on-site:

a) Approximately 20 - cans of miscellaneous paint stored in its original tin-coated steel quart or gallon containers

b) Approximately 20 – 30 gallon diesel tank storage drum barrels

c) Approximately 20 – 30 gallon gasoline tank storage drum barrels

d) Approximately 100 – Silicone Sealants (12 ounce tubes)

e) Approximately 100 – Foam Sealants (24 ounce tubes)

f) Approximately 100 – Silicone Adhesives (12, ounce tubes)

The use of gasoline, diesel fuel, oils, and lubricants for operation and maintenance of heavy equipment during construction is expected for the proposed Project. Solvents, detergents, and degreasers would also be used in association with construction. The other materials, such as paints, ethylene glycol, and welding materials, may all be used to varying extents as the Project is constructed. Basic hazardous material spill kits would be stored in the temporary construction trailers located on the solar facility site during construction in accordance with best management practices (BMPs) developed for the site. The Project would coordinate with registered hazardous waste transporters if spills or release result in contaminated soils in accordance with regulatory requirements.

During construction of the Project, construction activities would be required to adhere to the National Pollutant Discharge Elimination System (NPDES) General Construction Permit which requires implementation of BMPs to minimize accidental releases of hazardous materials and provide appropriate response in the unlikely event there is a release. As a result, there would be a limited risk of accidental release of hazardous materials such as gasoline, oil, or other fluids in the operation and maintenance of construction equipment. In addition, hazardous spill mitigation materials and equipment, as well as personal protective equipment (PPE), will be used as needed in an effort to prevent spills into waterways by protecting drainage inlets, gutters, etc., and for cleanup. Sand or other absorbent materials can also be useful for absorption and containment. Material Safety Data Sheets for the materials in use on-site will be located at the temporary

construction trailer. Implementation of these spill prevention measures would reduce potential impacts to less than significant levels. Construction waste, including petroleum products, and other potentially hazardous materials would be required to be disposed of at a facility authorized to accept such materials in accordance with the receiving facilities requirements. Any contaminated soils or other hazardous materials removed from the Project area would be transported only by a Licensed Hazardous Waste Hauler in compliance with all applicable local, State, and federal requirements. Hazardous materials are routinely transported throughout Southern California, in compliance with these requirements, and accidents and/or releases are relatively rare. As part of the Project, Compliance with BMP-9, Hazardous Materials, and with applicable City, State, and federal regulations would minimize the risk of damage or injury from these potential hazards to less than significant levels.

In addition, portions of the PVMSP site are located in areas with a history of agricultural production. As a result, there is a potential for residual, low-level concentrations of pesticides and other agricultural chemicals to be present in shallow soils and/or groundwater. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) authorizes the legitimate application of herbicides and pesticides used in accordance with manufacturer-prescribed and labeled instructions. The potential presence of low concentrations of agricultural chemicals in the Project area would be evaluated through implementation of Mitigation Measures HAZ-1 and HAZ-2. Implementation of Mitigation Measures HAZ-1 and HAZ-2 would ensure that the potential impacts associated with residual pesticides or agricultural chemicals would be less than significant.

During construction, herbicides may be applied to control weed growth. Use of herbicides would occur in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner. In addition, the Project includes BMP-10, Integrated Weed Management Plan, requiring that a weed control and management plan be developed and approved by the County Agricultural Commissioner prior to any application of herbicides on the Project for weed management. Furthermore, the PVMSP would not contain a residential or commercial component that would expose people to potential pesticides or herbicides. As a result, application of herbicides during construction would have a less than significant impact.

Operation and Maintenance

During operation and maintenance of the proposed Project, a variety of hazardous materials would be transported to the site and used and stored on-site for miscellaneous, general maintenance activities. Hazardous materials are expected to include consumer-sized containers of oils, grease, paints, and solvents. Small quantities of diesel fuel and gasoline may also be used and stored at the facility for use in off-road service vehicles and generators. Dielectric insulating oil would be used in some electrical equipment, such as the on-site transformer(s). Oil-containing equipment would be installed with a spill containment system designed to contain all the oil in the event of a leak. If diesel-fueled back-up pumps are required for fire protection, appropriate secondary containment would be provided for the diesel fuel tank.

The Applicant would implement BMP-9, Hazardous Materials, which would help minimize impacts associated with hazardous materials storage and use during operations and maintenance by requiring that all fuels, fluids, and components with hazardous materials/wastes be handled in accordance with applicable regulations. Likewise, all such materials would be required to be kept in segregated storage with secondary containment. Compliance with applicable City, State, and federal regulations and the implementation of BMPs would address storage and handling of hazardous materials for the solar facility and reduce impacts from the use, storage and disposal of hazardous materials during operation to less than significant levels.

In addition to Riverside Waste Management, several agencies impose regulations regarding storage and management of hazardous materials. The Riverside County Fire Department, Riverside County Office of Emergency Services, the DTSC, and Riverside County Department of Environmental Health, all regulate storage of hazardous materials. Compliance with the standards of these agencies must be followed. As with construction, any hazardous materials requiring disposal would be disposed of in an approved landfill.

The Project would have an Emergency Action Team (EAT) on-site to lead hazardous material or spill release response procedures as outlined in the Release Reporting Guidelines published by the Riverside County Department of Environmental Health, Hazardous Materials Management Branch. The EAT is made up of two to three construction personnel which include the Construction Manager (Team Leader), a Field Engineer and a construction worker.

The Emergency Action Team would initiate emergency communication and full evacuation procedures when conditions warrant for the following major emergencies (including, but not limited too):

1. Large or rapidly spreading fires.
2. Combustible gas line/tank ruptures.
3. Other immediate releases of flammable, corrosive, or noxious, oxidizer/highly visible gases, vapor, smoke and dust or toxic gases.
4. Spills, leaks or releases of flammable, corrosive or toxic materials of a large enough quantity to present a hazard to site occupants, adjacent properties and personnel or the community at large.
5. Explosions, Detonations or Deflagrations.
6. Earthquakes.
7. Bomb threats.
8. Security, violence, civil disobedience incident/situations.
9. Severe weather conditions (heat, cold, lightning).

Other actions to take may include:

1. Fires: Close all doors or tight fitting enclosures leading to the fire area during evacuation.
2. Interior Flammable or Combustible/Explosive Gas Releases: Leave all doors and building entry doors open during evacuation.
3. Earthquakes: Move away from window areas. Take cover in a doorway if possible. Do not leave the building during the earthquake. Be aware of overhead hazards, power lines, cranes,
4. Hoists or scaffolding or other heavy materials that could fall.
5. Bomb threats: Consult "Bomb Threat Procedures" located in the "Emergency Action Plan" section.

For smaller spills or leaks, the EAT would shut-off valves or otherwise attempt to stop leaks at the source only if it is safe to do so. Small spills or leaks that can be safely controlled would be immediately contained by members of the Emergency Action Team in accordance with instructions from the Team Leader.

One universal spill kit and one oil-only spill kit will be located on-site at the temporary construction trailer throughout the duration of the construction process. **Tables 3.8-5** and **3.8-6** list the contents of each spill release kit.

TABLE 3.8-5
UNIVERSAL SPILL KIT (ABSORBS 24.6 GALLONS)

Qty.	Contents
100	Gray universal heavyweight Sonic Bonded pads 15" x 19"
6	Gray universal polypropylene socks 3" x 4'
4	Gray universal polypropylene pillows 8" x 18"
1	Nitrile gloves, pair
1	Safety goggles
1	DOT Emergency Response Guide Book
1	7" Epoxy putty stick
3	Yellow disposal bag (black text: "Caution Handle with Care")
3	8" Nylon zip tie
1	Wheeled Kaddie with interior shelves and easy-view compartments

TABLE 3.8-6
OIL-ONLY SPILL KIT (ABSORBS 24.6 GALLONS)

Qty.	Contents
100	White oil-only heavyweight Sonic Bonded pads 15" x 19"
6	White oil-only polypropylene socks 3" x 4'
4	White oil-only polypropylene pillows 8" x 18"
1	Nitrile gloves, pair
1	Safety goggles

As described under construction impacts above, hazardous spill mitigation materials and equipment, as well as Material Safety Data Sheets for the materials in use on-site will be available in the event of a spill. Implementation of these spill prevention measures would reduce potential impacts to less than significant levels.

A long-term strategy for weed control and management would be implemented during operation of the Project. An Integrated Weed Management Plan (BMP-10) would be prepared and approved by the County prior to ground-disturbing activities, and implemented during operation and maintenance of the Project. The Integrated Weed Management Plan would describe specific ongoing measures to remove weedy plant species from the Project area and encourage native plant growth. If herbicides are used, they would be applied in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner for application on County lands. As a result, the potential impact of herbicide use onsite would be less than significant.

Decommissioning

During decommissioning, substantial quantities of solid wastes (concrete, metal) and industrial wastes (dielectric insulating oil, diesel fuel) could result from dismantling the PVMSP. Large quantities of broken concrete from gen-tie line structure and building foundations and rock or gravel from on-site roads or electrical substations would be generated in addition to metal from fencing, structures, wiring, and water storage tanks. Transformers, inverters, the substations, and the septic system would all require removal and disposal. Other concrete foundations, such as those for buildings and inverter pads, would be demolished and removed/recycled or used on-site for fill as needed.

Gravel from roads would be either used on-site for fill or removed. The Applicant has indicated that commercially reasonable efforts would be made to recycle or reuse materials from decommissioning. All other materials would be disposed of at a licensed facility. Compliance with BMP-9, Hazardous Materials, and with applicable City, State, and federal regulations similar to those applied during construction and operations and maintenance would minimize potential impacts associated with the use and storage of hazardous materials during decommissioning of the PVMSP to less than significant levels.

Mitigation Measures

Mitigation Measures HAZ-1 and HAZ-2 would mitigate this impact.

Significance after Mitigation

This impact would be less than significant with implementation of Mitigation Measures HAZ-1 and HAZ-2.

Impact HAZ-2: The Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. This impact would *be less than significant.*

As described in greater detail above, potential impacts that may result from construction, operation, maintenance, and decommissioning of the proposed project could include the accidental release of hazardous materials such as fuels, oils, lubricants, and solvents if not managed appropriately. However, as required by the NPDES General Construction Permit, construction activities would be required to adhere to a Storm Water Pollution Prevention Plan which would include BMPs for the safe handling and storage of hazardous materials during construction. As discussed previously in HAZ-1, the PVMSP would also implement BMPs during operation and adhere to City, State, and federal regulations which would avoid or minimize the release of hazardous materials into the environment. Therefore, the Project would result in less than significant impact regarding creation of a hazard to the public or the environment.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact HAZ-3: The Project is located within an airport land use plan and could result in a safety hazard for people residing or working in the project area. This impact would be *less than significant with mitigation incorporated.*

The proposed Project falls within the Blythe Municipal Airport Influence Area (AIA), which is covered by the RCALUCP. Land uses, concentrations of population, and height of proposed development within this AIA are restricted in certain areas of the AIA as listed in **Table 3.8-2** under the RCALUCP discussion. As shown in **Figure 3.8-1**, *Airport Compatibility Zones*, the majority of the PVMSP's PV panel structures would be located within Compatibility Zones D and E, as well as partially located outside the Blythe Municipal AIA; no solar panels are proposed in Zones B1 and C. The electricity from the PV panels would be transferred along underground medium-voltage (34.5 kV) distribution lines. The gen-tie line (poles approximately 77 to 120 feet in height) would cross through Compatibility Zones D and E.

Construction

Construction of the proposed Project is expected to require about three years total to complete. During the peak 24-month period, the number of construction workers could at times reach 500 persons and would typically range between 300 and 500 workers at the site. Up to 400 workers could be involved with solar panel installation at one time, and up to 150 persons could be involved with substation and operation and maintenance (O&M) facilities construction at any one time.

It is estimated that the construction of solar panels would proceed in stages, with about six blocks (600 acres total) under construction at any one time. Up to 350 workers could be involved with assembling these blocks. Assuming that all 350 workers could be involved with assembling an individual 100-acre block, the average intensity would be about four workers per acre, which does not exceed any RCALUCP Zone average occupancy criteria. For peak intensity, it is reasonable to expect that up to 50 persons could be involved with assembling panels on any acre of the Project area. This level of activity would not exceed any RCALUCP Zone peak occupancy criteria.

The O&M site would occupy two acres in Zone D. The two substation sites would each be about two acres in size and located in Zone D. The peak construction workforce for these facilities would be about 150 persons, or about 75 persons per acre. This level of activity does not exceed the peak or average intensity factor for Zone D.

Operation and Maintenance

The PV solar panels for the proposed Project would not create adverse impacts to reflection and glare (see Section 3.1, *Aesthetics*) and the PVMSP would result in less than significant impacts associated with reflection and glare impacts to the Blythe Municipal Airport.

As mentioned in Section 3.1, *Aesthetics*, a Glare Study was prepared that analyzed potential light and glare/reflection impacts that would result from the solar arrays (see Appendix B of this EIR) The study was completed to determine if glare would be visible from the landing approach of the four runways used at the Blythe Municipal Airport and the proposed lengthened section of Runway 8. Because of the distance of the I-10 freeway from the solar facility site and angle of incidence, no glare impacts would occur to drivers traveling along the I-10 freeway.

Simulations were also developed for each landing approach at the Blythe Municipal Airport to study the glare from the single-axis solar trackers that are proposed for the Project. Visual analysts studied the 3D simulation under different lighting conditions and at different times of the year, including:

Summer Solstice (June 21, 2012): Where the length of sunlight hours is at its peak and the sun has reached its northernmost extremes.

Winter Solstice (December 22, 2012): Where the length of sunlight hours is at its lowest and the sun has reached its southernmost extremes.

Fall Equinox (September 23, 2012): Where the day and night are equal in length.

Spring Equinox (March 20, 2012): Where the day and night are equal in length.

These simulations were used to evaluate and document when glare may be visible along the various landing approaches. The following processes were simulated, and are illustrated in **Figure 3.1-3**, *Single Axis Solar Tracker Positioning*:

Tracking: Typical daytime operation when the solar array maintains a 90-degree relationship with the angle of the sun.

Backtracking: Operation at the beginning and end of the day when the sun is low on the horizon. The solar arrays rotate away from 90 degrees relative to the sun to ensure shading of the adjacent array is not occurring.

Stow: Operation during evening hours and high wind conditions. The solar arrays move into a position of 5 to 10 degrees off parallel to the ground surface.

The 3D simulations utilized 3D terrain models, runway GPS coordinates, 3D solar equipment, and a 3D sun system, as well as data on landing approach scenarios and expected cone of vision for pilots. This information was assembled in a 3D computer program to create an accurate virtual representation of the Project and surrounding area as they would be seen from aircraft on landing approach to the airport. Refer to the Glare Study in Appendix B for additional information on the study process. However, In the November 2010 FAA document, *Technical Guidance for Evaluating Selected Solar Technologies on Airports*, FAA tower personnel and airport managers from several airports were interviewed about reflectivity and glare from solar PV farms to their daily operations (these airports had solar farms that were operational for one to three years). According to the report, "To date, there have been no serious complaints from pilots or air traffic control due to glare impacts from existing airport solar PV installations" (FAA, 2010).

The findings of the glare study determined that the proposed Project would not result in dangerous or distracting glare associated with the Blythe Municipal Airport for the following reasons:

- PV panels are designed to absorb a majority of the sun's energy, resulting in reflection levels less than that of many other materials (e.g., metal, glass, water).
- The glare analysis reported a low occurrence of potential new glare from new solar operations.
- Potential glare was reported to occur beyond 0.75 mile from the end of runways studied, with most occurrences outside the focused view of pilots.
- Airports have operated, and continue to operate, safely around solar operations. To date, no serious complaints have been reported to the FAA.

Projects located within an airport's AIA are required to adhere to FAA Part 77 review. Part 77 FAA review includes a review of projects for the potential for incompatible land uses that are proposed within the area of influence. Incompatible land uses can include wastewater ponds, municipal flood control channels and drainage basins, sanitary landfills, solid waste transfer stations, electrical power substations, water storage tanks, golf courses, and other bird attractants. Incompatible land uses can be denied or require modifications. See also Section 3.4, *Biological Resources*, for discussion of impacts to birds.

As part of the land use compatibility review, the Riverside County Airport Land Use Commission (ALUC) reviewed the proposed Project site layout, transmission components, glint and glare analysis, and ancillary facilities and found the Project consistent with the 2004 Blythe Airport Land Use Compatibility Plan, as modified by the applicant (see Appendix K). However, if during operation of the Project, light or glare issues are discovered, then the conditions contained in the October 2012 ALUC Development Review (see Appendix K) would provide the means to reduce potential impacts to less than significant levels.

The Applicant also submitted tower structure locations and other relevant Project features to the FAA for formal hazard determination under 49 U.S.C. 1501; 13 CFR 77, Objects Affecting Navigable Airspace. The FAA conducted an aeronautical study in 2012 and found that these Gen-tie towers would not be a hazard to air navigation. However, the determination expired on February 9, 2014 and will require resubmittal. If the FAA again determines no hazard, then prior to construction, the Applicant would have to submit a Notice to Construct (FAA Form 7460-2) and receive authorization from the FAA. Therefore, Mitigation Measure HAZ-3 requires that the Project resubmit plans and receive current FAA final approval prior to commencement of construction.

Further, during construction, operation and maintenance, the PVMSP would not use equipment that would interfere with aircraft communications. There is a possibility that the Project would use microwave towers for communications, but it is not anticipated that these would create any issues with aircraft communications.

The structure height for the 230 kV gen-tie line would be below the maximum height requirements of the RCALUCP's Policy 1.5.3(a)(9). The proposed gen-tie line would be within an existing utility corridor and co-located with other existing and planned transmission lines of similar height (see **Figure 3.8-1** and **Table 3.8-1**).

Table 3.8-7 lists the total acreage of the proposed solar facility site that would be within the Compatibility Zones, acreage of open space (areas without above-ground structures that are a minimum size of 300 feet by 75 feet), percentage of the solar facility site that contains open space within each zone, and the RCALUCP's minimum open space requirements.

TABLE 3.8-7
BLYTHE MUNICIPAL AIRPORT COMPATIBILITY ZONES ASSOCIATED WITH THE SOLAR FACILITY

Zone	Acreage of Solar Facility within Each Zone	Acreage of Zonal Open Space	Percentage of Open Space	Minimum RCALUCP Requirements
Zone B1	22 acres	22 acres	100 %	30 %
Zone C	13 acres	13 acres	100 %	20 %
Zone D	1034 acres	187 acres	18 %	10 %

*Zone E does not have a minimum open space requirement.

SOURCE: POWER, 2012

The solar facility would be designed and constructed to industry safety design standards (i.e., Institute of Electrical and Electronic Engineers, National Electric Code) and Riverside County Building and Safety Department requirements to reduce the risk of electrical fires at the site. A Fire Management and Protection Plan would be prepared in consultation with the Riverside County Fire Department and other appropriate first responders to reduce the risk of an electrical fire on-site. Therefore, the PVMSP would result in less than significant impacts to safety hazards for people residing and working in and around the Blythe Municipal Airport and Project area with implementation of Mitigation Measure HAZ-3.

Mitigation Measures

Implementation of Mitigation Measure HAZ-3 would reduce adverse effects associated with Impact HAZ-3 (see *Section 3.8.8*).

Significance after Mitigation

This impact would be less than significant with implementation of Mitigation Measure HAZ-3.

Impact HAZ-4: **The Project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. This impact would be *less than significant.***

The proposed Project would not physically impede the existing emergency response plans, emergency vehicle access, or personnel access to the Project area. The PVMSP site is located in a remote area with alternative access roads allowing vehicles and personnel onto the site in the event of an emergency. Access would be maintained throughout construction, and appropriate detours would be provided in the event of potential road closures. The solar arrays would be surrounded by fencing and dirt access roads, approximately 12 feet wide, which would be constructed every 200 to 400 feet (approximately). In areas where solar panels are proposed, the Applicant would enter into a franchise agreement with the County of Riverside to close existing dirt access roads, which include portions of Megin Avenue, Rannels Boulevard, Dave Street, Keim Boulevard, 7th Avenue, and 8th Avenue. However, the main access road in and around the Project area (Buck Boulevard) would remain open. Emergency responders could utilize Buck Boulevard and dirt access roads within the solar facility. Refer to Section 3.16, *Traffic and Transportation*, for detailed discussions regarding access in and around the Project area. Therefore, the PVMSP would result in less than significant impacts related to impairment of the implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact HAZ-5: The Project could expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to

urbanized areas or where residences are intermixed with wildlands. This impact would be *less than significant with mitigation incorporated.*

As discussed in Section 3.14, *Public Services and Utilities*, the Project area is not located within an area of high/very high fire hazard, as determined by the California Department of Forestry and Fire Protection (CAL FIRE) and as also delineated by the Palo Verde Valley Area Plan, Figure 10, *Wildfire Susceptibility*. The Project area consists of undeveloped land, with minimal native or ruderal vegetation. Similarly, the surrounding land is primarily disturbed agricultural land.

The solar facility would be designed and constructed to industry safety design standards (i.e., Institute of Electrical and Electronic Engineers, National Electric Code) and Riverside County Building and Safety Department requirements to reduce the risk of electrical fires at the site. Solar arrays are fire-resistant, as they are constructed largely out of steel, glass, aluminum, or components housed within steel enclosures. Substation equipment and inverters would be sited on concrete foundations and inverters would be housed in steel and concrete equipment enclosures, minimizing the risk of electrical sparks that could ignite during equipment failure. The proposed gen-tie line would be co-located with other existing and proposed high voltage transmission lines and would not introduce a new obstruction that would adversely impact fire suppression efforts. In the event of a fire or accident, the complete facility alternating current (AC) power system could be shut down, and each power block could be isolated and shut down individually. The inverters automatically shut down when they no longer sense voltage from the grid.

The construction, operation, maintenance, and decommissioning of the PVMSP would result in a minimal increased risk of wildfires in the Project area. Regardless, the PVMSP would comply with all applicable wildland fire management plans and policies established by CAL FIRE and the Riverside County Fire Department. In addition, the Worker Environmental Awareness Program (WEAP) required under Mitigation Measure HAZ-2 would further reduce wildfire risks. Accordingly, the proposed Project is not expected to expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Therefore, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure HAZ-2 would reduce adverse effects associated with Impact HAZ-5 (see *Section 3.8.8*).

Significance after Mitigation

This impact would be less than significant with implementation of Mitigation Measure HAZ-2.

Other Hazard Issues of Concern

Several hazards of potential concern to the public are briefly discussed below. These hazards are could potentially result from the routine use of some of all the PVMSP facilities. While these issues could be addressed as part of Impact HAZ-1, they are more easily understood when presented separately. Accordingly, they are acknowledged and discussed to the extent that they would result from the PVMSP in this section.

Electric and Magnetic Fields

Potential impacts from the PVMSP to public health for residents of Riverside County with respect to electric and magnetic fields (EMF) are briefly acknowledged here. Both electric and magnetic fields occur together whenever electricity flows. Electric voltage (electric field) and electric current (magnetic field) from the proposed gen-tie line would create the potential for EMF exposure. The available evidence as evaluated by the CPUC and other regulatory agencies has not established that such fields pose a significant health hazard to exposed humans. To date, there are no health-based federal regulations or industry codes specifying environmental limits on the strengths of fields from power lines. Likewise, the State has not adopted any specific limits or regulations on EMF levels related to electric power facilities.

The potential for the gen-tie line on BLM-managed land to create a significant hazard to the public or the environment is minimal because the line would primarily be located within Utility Corridor K of the California Desert Conservation (CDCA) Plan. No residential uses are allowed within this corridor. In addition to the 230 kV gen-tie line, the Project would include an electrical collection system that would primarily be installed underground. Based on the undeveloped and unpopulated nature of the setting for the Project overall (gen-tie line and PV solar facility), long-term exposure to EMF related to the Project is not expected and no significant impact would occur.

Agricultural workers could potentially be exposed to EMF. However, the likelihood that these people could be exposed to levels above International Commission on Non-Ionizing Radiation Protection (ICNIRP) limits is low for the following reasons: (1) EMF levels themselves are not expected to be above ICNIRP limits, based on previous studies of EMF levels at power generation facilities and transmission lines; and (2) EMF levels follow the Inverse Square Law; thus, a person working more than 200 feet from a power transmission line is expected to experience only background EMF levels from natural sources. Accordingly, no significant hazard to agricultural workers is anticipated.

Interference with Radio-Frequency Communications

Gen-tie line-related radio-frequency interference is one of the indirect effects of Project operation. Interference may be produced by the physical interactions of line electric fields. Such interference is due to the radio noise produced by the action of the electric fields on the surface of the energized conductor. The phenomena involved is known as “corona discharge,” but is referred to as “spark gap electric discharge” when it occurs within gaps between the conductor and insulators or metal fittings. When generated, spark gap electric discharge manifests itself as perceivable interference with radio or television signal reception or with other forms of radio communication. The level of interference depends on such factors as line voltage, distance from the line to the receiving device, orientation of the antenna, signal level, line configuration, and weather conditions. As a result, maximum interference levels are not specified as design criteria for modern transmission lines. The level of any such interference usually depends on the magnitude of the electric fields involved and the distance from the line. The potential for such impacts is minimized by reducing the line electric fields and locating the line away from inhabited areas.

The proposed gen-tie line is primarily proposed within CDCA Corridor K in an unpopulated portion of the county.

The proposed gen-tie line would be built and maintained in keeping with all applicable standards and regulations, including those prescribed by the CPUC and State of California Rules for Overhead Electric Line Construction, General Order No. 95 (GO-95). The potential for spark gap electric discharge interference is usually of concern for lines of 345 kV and above, not for 230 kV lines. Since the proposed gen-tie line would be located in rural and uninhabited desert open space, it would not create a significant hazard to existing radio frequencies, and minimal impacts related to radio-frequency interference would occur.

Hazardous Shocks

Hazardous shocks are those that could result from direct or indirect contact between an individual and an energized power line. No design-specific federal regulations have been established to prevent hazardous shocks from overhead power lines. Safety is ensured within the industry through compliance with the requirements specifying the minimum national safe operating clearances applicable in areas where the line might be accessible to the public. The proposed gen-tie line would be located in rural and uninhabited desert open space, making it highly unlikely that the public would come in contact with the line. Moreover, the gen-tie line would primarily be located in a designated utility corridor (Corridor K) within the CDCA. The Applicant has indicated that the Project would be designed, constructed, and operated to meet or exceed the requirements of GO-95. The Project would include a grounding system dissipation current created by lightning and ground faults. Additionally, the Project would comply with the applicable U.S. Department of Labor, Occupational Safety and Health Standards.

The solar energy facility inverters and transformers would be placed on concrete foundations. Inverters would be housed in brick enclosures, while transformers would be housed in metal cabinets designed to meet National Electric Manufacturers Association (NEMA) 3R IP44 standards for electrical enclosures. Additionally, all electrical equipment would be subject to the product safety standard requirements of the Underwriters Laboratory (UL) and Conformance European (CE) certifications, which include assurance that the equipment would be safe to touch by humans and wildlife, and would not pose electrical shock or fire hazards. Furthermore, the WEAP required under Mitigation Measure HAZ-2 would further reduce the risk of injuries due to hazardous shocks. Therefore, the Project would not create a significant hazard of shock to people or wildlife.

Fire Hazard (Non-Wildland/Operational)

Standard fire prevention and suppression measures would be implemented for the proposed Project. O&M buildings would be designed with fire protection systems based on applicable Riverside County and City of Blythe requirements. Systems where pressurized firewater is used would have electric pumps. Portable fire extinguishers of appropriate sizes and types would be located throughout the facility site. Class C (electrical) rated fire extinguishers would be mounted at each inverter.

The PV modules are typically Class C fire-rated and the remainder of the equipment would be of nonflammable material (aluminum, steel, and glass). The solar facility would be maintained with a minimum of vegetation and other combustible materials. Up to nine 10,000-gallon firewater tanks would be distributed throughout the solar facility. Access roads would provide emergency access throughout the solar facility. In addition, the Applicants have indicated that the Project would be designed, constructed, and operated to meet or exceed the requirements of GO-95

Compliance with GO-95 includes clearance-related aspects that would apply to the gen-tie line to ensure adequate emergency access in the event of a fire.

Based on compliance with applicable requirements and design features incorporated as part of the Project, the Project would not create a significant fire hazards to the public or the environment.

Valley Fever

Construction of the PVMSP would occur in an area favorable to the growth of Valley Fever. Valley Fever is an illness caused by the *Coccidioides immitis* fungus that usually affects the lungs. The fungus grows in areas of low rainfall, high summer temperatures, and moderate winter temperatures. The fungal spores are generally found in the upper 30 centimeters of the soil horizon, especially in virgin, undisturbed soils. The spores become airborne when uncultivated soil is disturbed by winds, construction, farming, and other activities. An estimated 150,000 *Coccidioides* infections occur each year in the United States, although more than half of these infections do not produce any symptoms. In susceptible people and animals, infection occurs when a spore is inhaled. Valley Fever infection is highest in California from June to November. People working in occupations such as construction, agriculture, and archaeology have an increased risk of exposure and disease because these jobs result in disturbance of soils where fungal spores may be found.

Most Valley Fever cases are very mild, and more than half of infected people either have no symptoms or experience flu-like symptoms and never seek medical attention. There is currently no vaccine, although efforts to develop a vaccine are ongoing. Valley Fever is not contagious from person to person and it appears that after one exposure the body will develop immunity. In about 1 percent of those infected, *Coccidioides immitis* disseminates elsewhere in the body beyond the pulmonary system, with more serious, and in limited cases fatal, results.

The PVMSP would be located on disturbed agricultural land being actively cultivated. Agricultural land use involves fertilizer application (including use of herbicides and pesticides), cropping practices, soil cultivation, and manure management. While it is true that the climate of the PVMSP site (low rainfall, high summer temperatures, and moderate winter temperatures) is generally conducive to the occurrence of Valley Fever spores, construction and operation of the PVMSP is not anticipated to increase exposure to Valley Fever because it would be located on existing agricultural sites.

Valley Fever spores are generally found in the top 30 centimeters of soil. Construction of the PVMSP would affect this topsoil in a similar manner as it is currently regularly disturbed by the agricultural activities occurring on the site, and as it would likely continue to be disturbed if the Project were not built. Ground-disturbing activities would only occur during short-term Project

phases (construction and decommissioning) related to site preparation, site clearing, and construction. During these temporary construction-related phases, disturbance of the topsoil would be no greater than, and most likely comparatively less than, the annual soil disturbance of topsoil that occurs as a result of the existing agricultural activities. Further, a dust abatement plan, as required by the MDAQMD, would minimize the spread of fungal spores, thereby reducing potential for Valley Fever infection during construction (refer to BMP-3: Fugitive Dust Abatement Plan). In addition, the WEAP required under Mitigation Measure HAZ-2 would further reduce the risk contracting Valley Fever. During operations and maintenance, no soil disturbing activities are anticipated, compared to the ongoing, regular soil disturbing activities that would occur if the existing agriculture uses are continued. In addition, dust would be controlled during operations by the periodic application and maintenance of soil binders to exposed soil surfaces. Thus, operation and maintenance of the PVMSP would decrease the risk of exposure to Valley Fever.

Based on the above, the construction and operation of the PVMSP would result in a beneficial impact in terms of hazards to the public or the environment in terms of exposure to *Coccidioides immitis* and related incidents of Valley Fever.

Mitigation Measures

Implementation of Mitigation Measure HAZ-2 would reduce adverse effects associated with Other Hazard Issues of Concern (see Section 3.8.8).

Significance after Mitigation

This impact would be less than significant with implementation of Mitigation Measure HAZ-2.

3.8.7 Cumulative Impacts

The geographic scope of the cumulative hazards and hazardous materials analysis would include the transport, use, and disposal of hazardous materials during construction and would be limited to the areas where concurrent construction is occurring or where concurrent roads are being used for construction traffic. Operation and maintenance of the PVMSP, including the proposed substations and O&M building, would involve periodic and routine transport, use, and disposal of minor amounts of hazardous materials, primarily petroleum products (fuels and lubricating oils) and a large amount of motor vehicle fuel.

The geographic scope considered for cumulative impacts from health, safety, and hazardous materials/fire and fuels management is the area within one mile of the boundary of the study area. One mile is the American Society of Testing and Materials standard search distance for hazardous materials. This one-mile standard distance was also applied to other potential safety risks associated with fire and fuels management.

For potential cumulative impacts related the Blythe Municipal Airport and reflection and glare, the geographic scope includes solar projects within a five-mile radius of the Blythe Municipal Airport.

The temporal scope for this cumulative analysis would include development of cumulative projects through the end of Project decommissioning, which is estimated to be 30 years. However, the potential for short-term impacts related to hazards during construction and decommissioning would be greater than the potential for long-term impacts during operations and maintenance, because hazardous materials will be transported during construction and decommissioning.

Compliance with existing BMPs and agency regulations that address the handling of hazardous materials would ensure that the Project would not create a significant hazard to the public or the environment related to the handling or accidental release of hazardous materials. Past, present, and reasonably foreseeable future projects are also subject to existing agency regulations that address the handling and accidental release of hazardous materials; therefore, existing regulations would ensure that the combined effects to hazards and hazardous materials from the cumulative projects within the geographic scope of analysis would not be considered cumulatively significant. Further, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Project's incremental contribution to impacts in terms of hazard to the public or environment related to the handling or accidental release of hazardous materials (Impacts 3.8-1 and 3.8-2) would not be cumulatively considerable.

Construction (and decommissioning to a lesser degree) of the Project could encounter previously documented and un-documented hazardous materials sites within the Project area. Implementation of BMPs would help minimize the Project-specific health and safety hazards. Under cumulative conditions, implementation of the Project in conjunction with development of projects listed in Table 3-2 is not anticipated to present a public health and safety hazard to residents. Additionally, the Project and related projects would all involve the storage, use, disposal, and transportation of hazardous materials to varying degrees during construction and operation. Impacts from these activities would be less than significant because the storage, use, disposal, and transportation of hazardous materials are extensively regulated by various federal, State, and local laws, regulations, and policies. It is foreseeable that the Project and other cumulative projects would implement and comply with these existing hazardous materials laws, regulations, and policies. Therefore, the related projects impacts would not be considered cumulatively significant, and the PVMSP's incremental contribution related to impacts associated with the use or routine transportation of hazardous materials would not be cumulatively considerable.

Potential fire hazards associated with the proposed project facilities would be required to comply with applicable Riverside County and City of Blythe requirements relating to fire hazards. In addition, projects in the cumulative scenario would similarly be required to comply with fire hazard policies and therefore, the related projects impacts would not be considered cumulatively significant, and the PVMSP's incremental contribution related to impacts associated with fire hazards would not be cumulatively considerable

Reflection and glare from solar projects in close proximity to the Blythe Municipal Airport may contribute to reflection and glare impacts to pilots flying in and out of the Blythe Municipal Airport (Impacts 3.8-3 and 3.8-6). It is anticipated that the Blythe Airport Solar Project and

Blythe Mesa Solar Project, which also involve solar technology similar to the Project resulting in relatively predictable patterns of glare, could result in an incremental cumulative change to the existing reflection and glare experienced by pilots at the Blythe Municipal Airport. This impact would not be considered cumulatively significant. It is anticipated that the Blythe Solar Power Project and Desert Quartzite Solar Project would not result in glare patterns that could intersect the approach slopes associated with the Blythe Municipal Airport at the same time as the PVMSP. In addition, the Project's contribution would be reduced through implementation of Mitigation Measure HAZ-2. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Project's incremental contribution to cumulative reflection and glare impacts to the Blythe Municipal Airport would not be cumulatively considerable.

Mitigation Measures

Implement Mitigation Measures HAZ-1, HAZ-2, and HAZ-3.

Significance after Mitigation

Cumulative impacts would be less than significant.

3.8.8 Mitigation Measures

HAZ-1 Prior to issuance of a grading permit, a Phase II soil investigation shall be prepared by a qualified environmental consultant to evaluate the potential presence of residual pesticides or herbicides from past agricultural land uses. The investigation shall be in accordance with the recommendations of the November 27, 2012 Kennedy Jenks Phase I report. Any soils found to contain residual contaminants in exceedance of regulatory action levels that are determined by the consultant to represent a potential hazard to construction workers or future workers and visitors shall be removed from the site in accordance with Riverside County Department of Environmental Health oversight.

HAZ-2 Worker Environmental Awareness Program. The Worker Environmental Awareness Program (WEAP) shall include a personal protective equipment (PPE) program, an Emergency Action Plan (EAP), and an Injury and Illness Prevention Program (IIPP) to address health and safety issues associated with normal and unusual (emergency) conditions. Construction-related safety programs and procedures shall include a respiratory protection program, among other things. Construction would be undertaken sequentially in accordance with a Construction Plan that shall include the final design documents, work plan, health and safety plans, permits, project schedule, and operation and maintenance manuals. Construction Plan documents shall relate at least to the following:

1. Environmental health and safety training (including, but not limited, to training on the hazards of Valley Fever, including the symptoms, proper work procedures, how to use PPE, and informing supervisor of suspected symptoms of work-related Valley Fever)
2. Site security measures

3. Site first aid training
4. Construction testing (non-destructive examination, hydro, etc.) requirements
5. Site fire protection and extinguisher maintenance, guidance, and documentation
6. Furnishing and servicing of sanitary facilities records
7. Trash collection and disposal schedule/records
8. Disposal of hazardous materials and waste guidance in accordance with local, state, and federal regulations

HAZ-3 Prior to issuance of a grading or building permit, the Applicant shall submit all required plans and proposals to the Riverside County Airport Land Use Commission (RCALUC) and the Federal Aviation Administration (FAA) for Title 14 CFR Federal Aviation Regulations (FAR) Part 77 review. Commencement of construction shall not begin prior to final approval from RCALUC and FAA with any modifications required as part of the review incorporated into project design.

3.9 Hydrology and Water Quality

The purpose of this section is to inventory and describe existing water resources in the vicinity of the proposed Project. In addition to describing the existing conditions, this analysis presents the regulatory framework. The analysis of potential impacts of the Project on hydrology and water quality is based on the independent review by the County and its environmental consultant of technical studies provided by the Applicant, including the Palo Verde Mesa Solar Project Water Supply Assessment, prepared by POWER, 2012 (provided in Appendix G).

3.9.1 Environmental Setting

The proposed Project is located in the Colorado Desert, which is part of the greater Colorado Desert Geomorphic Province. The physiography of the area consists of mountains, alluvial fans, alluvial fan remnants, and alluvial valleys, including active drainages and fluvial terraces, and internally drained basins (USDA, 2006). Elevations in the Project vicinity range from 260 feet near the Colorado River to 2,054 feet on McCoy Peak. The Project area is characterized by rural development intermixed with agricultural and undeveloped lands. Extensive areas to the north and east are preserved open space, set aside for recreation, wildlife, and protected species.

The Colorado Desert has the lowest annual precipitation and highest temperatures in North America. In the Blythe area, temperatures range from average summer highs of 108.5°F (42.5°C) to average winter highs of 67.6°F (19.8°C). Precipitation occurs in the form of rainfall; the average annual rainfall for Blythe is 3.83 inches, primarily from late summer thunderstorms moving north from Mexico (RWQCB, 2006). Document 2 floodplains were analyzed using NOAA Atlas 14 precipitation and RCFC&WCD methodology according to Co Ordinance 458.

Surface Waters

The Project is located in an undefined Hydrologic Sub-Area (HSA 715.40) of the Palo Verde Hydrologic Area (Palo Verde Mesa) within the Colorado (River) Hydrologic Unit in eastern Riverside County, California. The Colorado River is the largest river in the region, encompassing approximately 244,000 square miles in portions of seven states (Wyoming, Utah, Colorado, Nevada, New Mexico, Arizona, and California), and provides water to over 25 million people and approximately 3.5 million acres of agricultural lands in the U.S. and Mexico. In addition, hydroelectric generation facilities in the Colorado River Basin provide approximately 12 billion kilowatt hours of energy annually (MSCP, 2004).

Due to the low precipitation, surface water is generally minimal on the Palo Verde Mesa, limited to ephemeral and intermittent drainages with the exception of the Colorado River. The Project would be located near the eastern edge of the Palo Verde Mesa, above the Palo Verde Valley and west of the 100-year floodplain of the Colorado River. There are several washes terminating in or passing through the Project area, as shown in **Figure 3.9-1**, *Jurisdictional Waters*. The largest of these washes is the McCoy Wash, a tributary of the Colorado River that drains 210 square miles of surface water from the Big Maria Mountains, Little Maria Mountains, and McCoy Mountains, flowing northwest to southeast across the Project area (AECOM, 2009; EDAW, 2009). McCoy

Wash and several of the other washes entering the Project area are also recognized by the National Wetlands Inventory as category R4SBA, indicating that the "streambed includes the bed of a stream channel that is occupied by water intermittently during periods of abundant water availability and is often temporarily flooded" (NWI, 2011).

A second (unnamed) ephemeral wash categorized as R4SBA begins approximately 0.3 mile east of the Northern Substation, and flows generally east-southeast over the edge of the mesa, emptying into Rannell's Drain, an irrigation canal that follows the western edge of the Palo Verde Valley. This wash drains the relatively flat topography upslope.

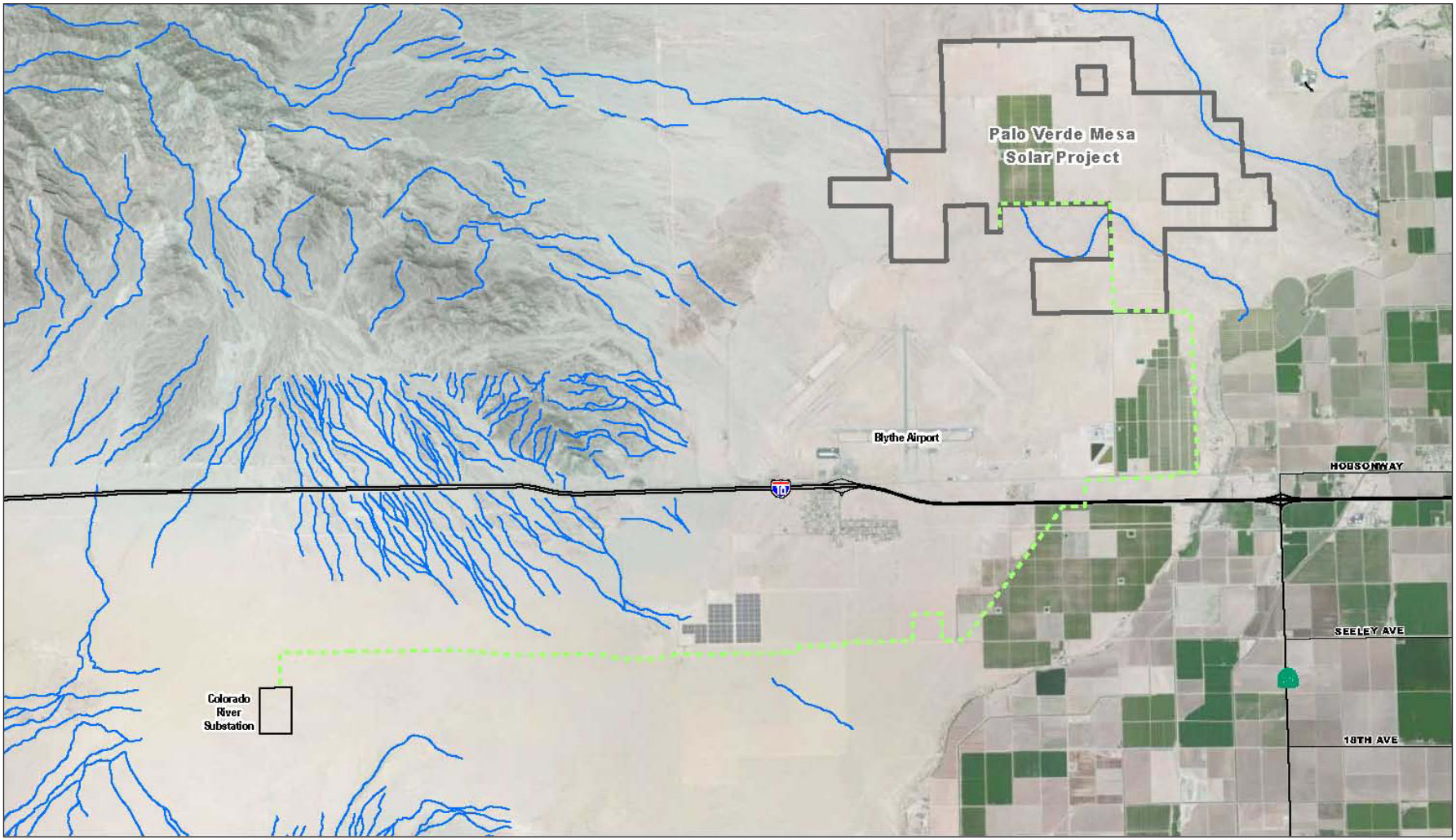
A third unnamed ephemeral wash flows into the solar facility site, flowing from the McCoy Mountains east into the Project area, and dissipating as sheet flow approximately 0.98 mile northwest of the Northern Substation. This wash does not have an NWI classification and, toward its terminus, lacks a defined channel.

A fourth (unnamed) ephemeral wash bisects the southern portion of the transmission line (see **Figure 3.9-2**, *Unnamed Hydrologic Feature*). This wash originates in the McCoy Mountains northwest of the transmission line and flows southeast, partially contained by a berm. Approximately 1 mile south of I-10, the dike ends and the drainage continues as a broad, shallow channel beneath the proposed gen-tie line. During larger storm events, flow from this ephemeral drainage eventually connects with the Colorado River.

Within the surrounding agricultural lands there are a number of small ephemeral drainages, generally flowing from northwest to southeast toward the Colorado River, either dissipating prior to reaching the edge of the Mesa or flowing into the valley. Stormwater in the form of sheet flow typically flows overland toward the edge of the Mesa. In areas used for agriculture, flow may be diverted by earthen berms or irrigation ditches. Sheet flow eventually reaches the edge of the Mesa and flows into the canal and drain system of the Palo Verde Valley. This system eventually returns water to the Colorado River via the Outfall Drain, approximately 18 miles south of the Project. Perennial water comes from the Colorado River, which lies eight miles east of the Project area and is the primary source of irrigation water for agriculture in the area.

Water Quality

The Project is in the East Colorado River Basin Planning Area of the Water Quality Control Plan for the Colorado River Regional Water Quality Control Board (RWQCB). This Basin Plan describes surface water quality objectives for the Planning Area; these objectives were established to protect the existing and potential beneficial uses of surface water in the region. Beneficial uses are goals or desired uses of a water body as specified in the Basin Plan, and may include existing, proposed, or intermittent uses. Beneficial uses for water bodies in the Project area are listed in **Table 3.9-1**, and include the following: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Aquaculture (AQUA), Industrial Service Supply (IND), Ground Water Recharge (GWR), Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2), Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), Hydropower Generation (POW), and Preservation of Rare, Threatened, or Endangered Species (RARE).



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.9-1
Jurisdictional Waters

SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.9-2

Unnamed Hydrologic Feature

TABLE 3.9-1
BENEFICIAL USES OF SURFACE WATERS IN THE PROJECT AREA

	MUN	AGR	AQUA	IND	GWR	REC-1	REC-2	WARM	WILD	POW	RARE
Colorado River and associated lakes and reservoirs	E	E	E	E	E	E	E	E	E	E	E
Palo Verde Valley Canals	P	E	E		E	E	E	E	E		
Palo Verde Drains						E	E	E	E		
Palo Verde Lagoon and Outfall drain						E	E	E	E		E
Washes (Ephemeral Streams)					I		I	C	I		

E = Existing use
P = Potential Use
I = Intermittent Use
C = Conditional use, to be determined on a case-by-case basis

SOURCE: Water Quality Control Plan for the Colorado River Basin – Region 7 RWQCB, 2006.

Groundwater

The Palo Verde Mesa Groundwater Basin (PVMGB) underlies the Project area in eastern Riverside County. The basin is bounded by nonwater-bearing rocks of the Big Maria and Little Maria Mountains on the north, of the McCoy and Mule Mountains on the west, of the Palo Verde Mesa on the east, and of the Palo Verde Mountains on the south (DWR, 1979; Jennings, 1967). The northwest boundary and parts of the western boundary are drainage divides (Metzger, 1973; Jennings, 1967). The valley is drained by McCoy Wash to the Colorado River.

The primary source of groundwater in the basin is found in alluvial deposits of Quaternary age. The alluvium generally consists of lenticular beds of sand, gravel, silt, and clay, except near the mountains, where it consists principally of coarse-grained angular rock detritus (DWR, 1979). Other water-bearing deposits at the site are the Bouse Formation and a fanglomerate deposit (Metzger, 1973).

Sources of recharge to the PVMGB include precipitation, underflow from adjacent areas, including the Rice and Chuckwalla Valleys (Metzger, 1973), and water applied for irrigation. More recent information by the California Department of Water Resources (DWR) suggests that recharge of the basin is chiefly from percolation of runoff from the surrounding mountains, with percolation of precipitation to the valley floor and subsurface inflow as contributing additional (albeit minor) sources of recharge (DWR, 1979).

The estimated total groundwater storage capacity for the PVMGB is 6,840,000 ac-ft (DWR 1975). The actual discharge from the PVMGB is not known; however, it is reasonable to assume that the discharge for agriculture use has in the past exceeded the recharge from sources other than the Colorado River. The absence of significant changes in water level data in the PVMGB over time suggests a buffering effect from another source of recharge, which is presumed to be

the Colorado River. Because of the influence from the river recharge, the groundwater basin is not in overdraft.

A "water budget" is the comparison of all inflow/recharge to all outflow/demand from a specified groundwater basin, while "safe yield" is the amount of groundwater that can be withdrawn on a sustained basis without impairing groundwater quality or otherwise resulting in environmental damage. In 2003, the Palo Verde Irrigation District (PVID) reported that 544 acres within its service area and an estimated 300 acres outside its service area irrigate with groundwater on the Palo Verde Mesa (CEC, 2005). PVID reports that 3,911 ac-ft of water were used to irrigate 768 acres on the Palo Verde Mesa in 2010. Excess irrigation water not used by the crops and not lost through evaporation is believed to percolate into the soils to help control salts and eventually infiltrate to groundwater. The volume of water that infiltrates to groundwater is relatively low based on the crop type and evaporation rates.

Direct recharge from rainfall is an insignificant amount compared to the amount that is recharged from runoff (Metzer, 1973). The recharge from runoff will only occur during the larger storm events. For this analysis, it is simply assumed that the recharge basin is approximately 130 square miles and receives an average of 3.5 inches of precipitation per year. The total estimated precipitation volume in the basin during a year would be approximately 24,266 ac-foot (ft) assuming the total 3.5 inches of rain. It is assumed that only 1% (242 acre feet) of this water will infiltrate to groundwater during the larger storm events mainly in the larger washes.

Table 3.9-2 lists the total estimated inflow to the PVMGB minus the reported groundwater extraction using the PVID estimated water volumes. For a detailed discussion regarding the Project area's water supply, please refer to the Palo Verde Mesa Solar Project Water Supply Assessment, prepared by POWER, 2012 (provided in Appendix G).

TABLE 3.9-2
WATER BUDGET FOR THE PALO VERDE GROUNDWATER BASIN

Budget Components	Palo Verde Mesa Groundwater Basin
Recharge from runoff infiltration (1%)	242 ac-ft/yr
Underflow from Chuckwalla Valley Groundwater Basin	400 ac-ft/yr
Irrigation Return Flow (1.8% of 3,911 ac-ft (2010))	72 ac-ft/yr
Total Inflow	***714 ac-ft/yr***
Groundwater Extraction	0 ac-ft/yr
Total Outflow	***714 ac-ft/yr***
Budget Balance (Inflow-Outflow)	**714 ac-ft/yr**

SOURCE: POWER

Water quality is the physical, chemical, and biological characteristics of water, when assessed according to standards related to ecosystem health, the safety of drinking water, and the safety of human contact. Water quality data from local irrigation wells is not available. However, water

quality information for wells serving a natural gas-fired power plant located adjacent to the Project area show total dissolved solids (TDS) of about 1,010 milligrams per liter (mg/L). Hardness is about 140 mg/L and silica concentration is about 24 mg/L. No information is available on arsenic concentrations from the sampled wells.

3.9.2 Regulatory Setting

Federal

Section 404 Clean Water Act

Waters of the U.S. including wetlands are subject to US Army Corps of Engineers (USACE) jurisdiction under Section 404 of the Clean Water Act (CWA). A Section 404 permit is required for the discharge of dredged or fill material into Waters of the U.S. The Los Angeles District of the USACE would provide review and permitting services for this Project. Field reconnaissance surveys, analyses of National Wetlands Inventory (NWI) and watershed data have determined the presence of one jurisdictional water of the U.S. within the Project area, as discussed previously

Section 401 Clean Water Act

Pursuant to Section 401 of the CWA, a water quality certification is required from the Colorado River RWQCB. The Colorado River RWQCB certifies that discharges to Waters of the U.S. or Waters of the State complies with State water quality standards and ensures that there is no net loss of wetlands through impact avoidance, minimization, and mitigation. The RWQCB regulates isolated waters under Section 401(c) of the CWA as Waters of the State regardless of USCAE jurisdiction.

Section 303(d) Clean Water Act

Section 303(d) unites the water quality management strategies of the CWA. Section 303(d) requires that states make a list of waters that exceed the minimum level of pollutants put in place by the CWA. For waters on this list, the states must develop total maximum daily loads (TMDLs) that account for all sources of the pollutants that caused the water to be listed. The TMDLs must account for contributions from both point sources and nonpoint sources, as defined by Section 502 of the CWA. In California, the State Water Resources Control Board (SWRCB) has interpreted State law (see Porter-Cologne Water Quality Control Act below) to require that implementation of TMDLs be addressed when incorporated into Basin Plans.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act defines “water quality objectives” as the allowable “limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.” Thus, water quality objectives are intended to protect the public health and welfare, and to maintain or enhance water quality in relation to the existing and/or potential beneficial uses of the water. Water quality objectives apply to both Waters of the U.S. and Waters of the State.

The State Water Resources Control Board (SWRCB) requires individual Regional Water Quality Control Board (RWQCBs) to develop Basin Plans (water quality control plans) designed to preserve and enhance water quality and protect the beneficial uses of all Regional waters. Specifically, Basin Plans designate beneficial uses for surface waters and groundwater, set narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's antidegradation policy, and describe implementation programs to protect all waters in the Regions. In addition, Basin Plans incorporate by reference all applicable State and Regional Board plans and policies, and other pertinent water quality policies and regulations. The Project is under the jurisdiction of the Basin Plan of the Colorado River Regional Water Quality Control Board.

Construction Stormwater Program

The SWRCB and the nine RWQCBs implement water quality regulations under the federal CWA and the California Porter-Cologne Water Quality Control Act. Existing water quality regulations require compliance with the National Pollutant Discharge Elimination System (NPDES) for discharges of stormwater runoff associated with construction activity.

Dischargers are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction and Land Disturbance Activities (Construction General Permit, 2009-0009-DWQ). Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP should contain a site map(s) that shows the construction site perimeter, existing and proposed structures, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the Project. The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect stormwater runoff and the placement of those BMPs. Additionally, the SWPPP must contain a monitoring program for visible and non-visible pollutants and changes in water quality, such as substantial alteration in pH.

Water Code Sections 10910 – 10915

California Water Code (Section 10910 et. seq.) requires the preparation of a Water Supply Assessment (WSA) for projects meeting the definition of a "Project" as defined by Water Code section 10912. The intent of the WSA is to identify water supplies that may be required to meet water demand for a project and to determine the availability and adequacy of those supplies over a twenty-year period.

Regional and Local

Riverside County General Plan

The Riverside County General Plan contains policies relevant to the protection and management of water, including surface water and groundwater, within the County. The following policies are

contained in the Multipurpose Open Space Element of the General Plan (Riverside County, 2015).

Policy OS 2.1 Implement a water-efficient landscape ordinance and corresponding policies that promote the use of water-efficient plants and irrigation technologies, minimizes the use of turf, and reduces water-waste without sacrificing landscape quality.

Policy OS 2.2: Encourage the installation of water-conserving systems such as dry wells and graywater systems, where feasible, especially in new developments. The installation of cisterns or infiltrators shall also be encouraged to capture rainwater from roofs for irrigation in the dry season and flood control during heavy storms.

Policy OS 2.3: Seek opportunities to coordinate water-efficiency policies and programs with water service providers.

Policy OS 2.5 Encourage continued agricultural water conservation and recommend the following practices where appropriate and feasible: lining canals, recovering tail water at the end of irrigated fields, and appropriate scheduling of water deliveries.

Policy OS 3.1: Encourage innovative and creative techniques for wastewater treatment, including the use of local water treatment plants.

Policy OS 3.2: Encourage innovative wastewater treatment techniques innovations, sanitary sewer systems, and groundwater management strategies that protect groundwater quality in rural areas.

Policy OS 3.3: Minimize pollutant discharge into storm drainage systems, and natural drainages, and aquifers.

Policy OS 3.4: Review proposed projects to ensure compliance with the National Pollutant Discharge Elimination System (NPDES) Permits and require them to prepare the necessary Stormwater Pollution Prevention Program (SWPPP).

Policy OS 3.5: Integrate water runoff management within planned infrastructure and facilities such as parks, street medians and public landscaped areas, parking lots, streets, etc. where feasible.

Policy OS 3.6: Design the necessary stormwater detention basins, recharge basins, water quality basins, or similar water capture facilities to protect water-quality. Such facilities should capture and/or treat water before it enters a watercourse. In general, these facilities should not be placed in watercourses, unless no other feasible options are available.

Policy OS 3.7: Where feasible, decrease stormwater runoff by reducing pavement in development areas, reducing dry weather urban runoff, and by incorporating "Low Impact Development," green infrastructure and other Best Management Practice design measures

such as permeable parking bays and lots, use of less pavement, bio-filtration, and use of multi-functional open drainage systems, etc.

Policy OS 4.3: Ensure that adequate aquifer water recharge areas are preserved and protected.

Policy OS 4.6: Retain storm water at or near the site of generation for percolation into the groundwater to conserve it for future uses and to mitigate adjacent flooding. Such retention may occur through "Low Impact Development" or other Best Management Practice measures.

Policy OS 4.7: Encourage storm water management and urban runoff reduction as an enhanced aesthetic and experience design element. Many design practices exist to accomplish this depending on site conditions, planned use, cost-benefit, and development interest.

Policy OS 4.8: Use natural approaches to managing streams, to the maximum extent possible, where groundwater recharge is likely to occur.

Policy OS 5.2: If substantial modification to a floodway is proposed, design it to reduce adverse environmental effects to the maximum extent feasible, considering the following factors:

a. stream scour;
b. erosion protection and sedimentation;
c. wildlife habitat and linkages;
d. cultural resources including human remains;
e. groundwater recharge capability;
f. adjacent property; and
g. design (a natural effect, examples could include soft riparian bottoms and gentle bank slopes, wide and shallow floodways, minimization of visible use of concrete, and landscaping with native plants to the maximum extent possible). A site specific hydrologic study may be required.

Policy OS 5.3: Based upon site, specific study, all development shall be set back from the floodway boundary a distance adequate to address the following issues:

a. public safety;
b. erosion;
c. riparian or wetland buffer;
d. wildlife movement corridor or linkage; and
e. slopes;
f. type of watercourse; and
g. cultural resources.

City of Blythe General Plan 2025

Portions of the Project fall within the jurisdiction of the City of Blythe. The Open Space and Conservation Element of the City of Blythe General Plan 2025 (2007) sets forth guiding policies for the preservation of water quality within the zoning area of the City.

Open Space and Conservation Element

Policy 20: Enhance the quality of surface water resources of the Planning Area and prevent their contamination.

Policy 21: Comply with the Regional Water Quality Control Board's regulations and standards to maintain and improve groundwater quality in the Planning Area.

Policy 22: Where feasible, given flood control requirements, maintain the natural condition of waterways and flood plains and protect watersheds to ensure adequate groundwater recharge and water quality.

3.9.3 Methodology for Analysis

To assess potential effects of the Project related to hydrology, water quality, and water resources, the Project area was inventoried to allow a location-specific analysis of temporary and permanent effects of the proposed Project. Potential effects to hydrology and water quality include temporary (i.e., construction-related) effects and long term (i.e., operational) effects. When evaluating potential effects of the Project resulting from construction, operation and maintenance, and decommissioning of the Project, it was assumed that the Project would comply with all applicable federal, State, and local regulatory requirements and permits that protect surface water and groundwater.

3.9.4 Applicable Best Management Practices

As part of the Project, the following applicable BMPs would minimize the environmental impacts to hydrology and water quality. The BMPs have been detailed below (see also Table 2-4 in Chapter 2) and are further referenced (by number) within the impact discussion. The Project shall implement site design and source control BMPs according to County Standards

BMP-1 **Drainage, Erosion, and Sedimentation Control Plan**. As part of the County of Riverside's Conditional Use Permit (CUP) requirements, a Drainage, Erosion, and Sedimentation Control Plan would be developed for the Project. The project shall implement Site design and Source control BMPs according to County Standards. The plan would address the drainage, erosion, and sediment control requirements to support all activities associated with construction, operation ,maintenance and decommissioning of the Project. For example, any stockpiles created would be kept on site, with an upslope barrier in place to divert runoff. Stockpiles would be sprayed with water, covered with tarpaulins, and/or treated with appropriate dust suppressants, especially in preparation for high wind or storm conditions. Certified weed-free straw bale barriers would be installed to control sediment in runoff water; straw bale

barriers would be installed only where sediment-laden water can pond, thus allowing the sediment to settle out. Topsoil from the site would be stripped, stockpiled, and stabilized before excavating earth for facility construction. Topsoil would be segregated and spread on freshly disturbed areas to reduce color contrast and aid rapid revegetation. The Drainage, Erosion, and Sedimentation Control Plan shall also include site design and source control BMPs that minimize the potential for erosion and off-site sedimentation.

BMP-2 **Stormwater Pollution Prevention Plan.** In compliance with requirements of the National Pollutant Discharge Elimination System (NPDES) permit, a Stormwater Pollution Prevention Plan (SWPPP) would be developed and prepared for the Project to ensure that protection of water quality and soil resources is consistent with County and State regulations. The plan would identify site surface water runoff patterns and include measures that prevent excessive and unnatural soil deposition and erosion throughout and downslope of the Project area and Project-related construction areas, and would also include measures for non-stormwater discharge and waste management. The SWPPP would cover all activities associated with the construction of the Project, including clearing, grading, and other ground disturbance such as stockpiling or excavation erosion control. The plan would prevent off-site migration of contaminated stormwater, changes in pre-Project storm hydrographs, or increased soil erosion.

BMP-3 **Fugitive Dust Abatement Plan.** As required by the Mojave Desert Air Quality Management District Rule 403, a Fugitive Dust Abatement Plan would be prepared to address fugitive dust emissions during Project construction, operation, maintenance, and decommissioning. The plan would include measures to minimize fugitive dust emissions from wrecking, excavation, grading, clearing of land, and solid waste disposal operations, and would take every reasonable precaution to prevent visible particulate matter from being deposited upon public roadways as a direct result of operations. During construction, all unpaved roads, disturbed areas (e.g., areas of scraping, excavation, backfilling, grading, and compacting), and loose materials generated during Project construction activities would be watered as frequently as necessary to minimize fugitive dust generation. However, the amount of water will be minimized each time to prevent temporarily ponding water that may occur as a result of the fugitive dust plan. In water-deprived locations, water spraying would be limited to active disturbance areas only, and non-water-based dust control measures would be implemented in areas with intermittent use or use that is not heavy, such as stockpiles or access roads. The dust suppression measures would consider the sensitivity of wildlife to the windborne dispersal of fugitive dust containing dust suppressants and the potential impact on future reclamation.

The Dust Abatement Plan includes three specific measures (BMP 3.1 through BMP 3.3) as listed below:

BMP-3.1. The following signage shall be erected not later than the

commencement of construction. A minimum 48 inch high by 96 inch wide sign containing the following shall be located within 50 feet of each Project site entrance, meeting the specified minimum text height, black text on white background, on one inch A/C laminated plywood board, with the lower edge between six and seven feet above grade, with the contact name of a responsible official for the site and a local or toll-free number that is accessible 24 hours per day:

[Site Name]	{four inch text}
[Project Name/Project Number]	{four inch text}
IF YOU SEE DUST COMING FROM	{four inch text}
THIS PROJECT CALL:	{four inch text}
[Contact Name], PHONE NUMBER XXX-XXXX	{six inch text}
If you do not receive a response, Please Call	{three inch text}
The MDAQMD at 1-800-635-4617	{three inch text}

BMP-3.2. For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization, durable polymeric soil stabilizers, or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from sand/fines deposits.

BMP-3.3. All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The owner/ operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule or project-specific biological mitigation prohibiting wind fencing.

BMP-8 **Cleanup and restoration.** Upon completion of construction activities, all unused materials and equipment shall be removed from the Project area. All construction equipment and refuse including, but not limited to, wrapping material, cables, cords, wire, boxes, rope, broken equipment parts, twine, strapping, buckets, and metal or plastic containers shall be removed from the site and disposed of properly after completion of construction. Any unused or leftover hazardous products shall be properly disposed of off-site.

BMP-9 **Hazardous materials.** As required by the Clean Air Act, Section 401 of the Clean Water Act, the Toxic Substance Control Act, and the Hazardous Materials Transportation Act, all vehicles and equipment must be in proper working condition to ensure that there is no potential for fugitive emissions or accidental release of motor oil, fuel, antifreeze, hydraulic fluid, grease, or other hazardous materials. Equipment must be checked for leaks prior to operation and repaired as necessary. Refueling of equipment must take place on existing paved roads, where possible, and not within or adjacent to drainages. Hazardous spills must be cleaned up immediately. Contaminated soil would be disposed of at an approved offsite landfill, and spills

reported to the permitting agencies. Service/maintenance vehicles should carry appropriate equipment and materials to isolate and remediate leaks or spills, and an on-site spill containment kit for fueling, maintenance, and construction will be available.

Cleaning of construction vehicles at commercial car washes should be considered rather than washing vehicles on the Project area so that dirt, grease, and detergents are treated effectively at existing facilities designed to handle those types of wastes.

BMP-10 **Integrated Weed Management Plan.** In compliance with the Federal Noxious Weed Act and the Plant Protection Act, a Project-specific integrated weed management plan for the control of noxious weeds and invasive plant species would be prepared. The plan would identify presence, location, and abundance of weed species in the Project area and surrounding area adjacent to the Project, as well as identify suppression and containment measures to prevent the spread of weed species and introduction of weed species. Prevention techniques would include: limiting disturbance areas during construction to the minimum required to perform work; limiting ingress and egress to defined routes; maintaining vehicle wash and inspection stations; and closely monitoring the types of materials brought on site to minimize the potential for weed introduction. During operations, noxious and invasive weed management will be incorporated as a part of mandatory site training for groundskeepers and maintenance personnel. Training will include weed identification and the impacts on agriculture, wildlife, and fire frequencies. Training will also cover the importance of preventing the spread of noxious weeds and of controlling the proliferation of existing weeds.

BMP-11 **Project structures, gen-tie line, and building surfaces.** Project facilities would be sited to ensure that there is adequate space (i.e., setbacks of no less than 100 feet) between solar facilities and natural washes. These setbacks would preserve and maintain the natural washes' hydrological functions. The color and finish of Project structure and building surfaces that are visible to the public will be designed to ensure minimal visual intrusion, contrast, and glare. Grouped structures will be painted the same color to reduce visual complexity and color contrast. Solar panel backs will be color-treated to reduce visual contrast with the landscape setting. Materials, coatings, or paints having little or no reflectivity will be used wherever possible.

BMP-13 **Ground and surface disturbance.** Construction boundaries would be clearly delineated to minimize areas of ground and surface disturbance. Ground-disturbing activities shall be minimized, especially during the rainy season. Construction-related activities (such as vehicle and foot traffic) would avoid areas with intact biological soil crusts. For cases in which impacts cannot be avoided, soil crusts would be salvaged and restored on the basis of recommendations by the County of Riverside and BLM once construction has been completed. Existing rocks, vegetation, and drainage patterns shall be preserved. No paint or permanent discoloring agents shall be applied to rocks or vegetation (to indicate surveyor construction activity limits or for any other purpose). All stakes and flagging shall be removed from the

construction area and disposed of in an approved facility. Brush-beating, mowing, or use of protective surface matting rather than removing vegetation shall be employed. Clearing and disturbing of sensitive areas (e.g., steep slopes and natural drainages) and other areas shall be avoided outside the construction zone. Surface disturbance would be minimized by utilizing undulating surface disturbance edges; stripping, salvaging, and replacing topsoil; using contoured grading; controlling erosion; using dust suppression techniques; and restoring exposed soils to their original contour and vegetation.

BMP-15 **New access roads and parking lots.** New access roads shall be designed and constructed to the appropriate road design standards, such as those described in BLM Manual 9113 or County standards, whichever is applicable. New access roads shall be designed to follow natural land contours in the Project area and avoid existing desert washes. The specifications and codes developed by the U.S. Department of Transportation (DOT) and County of Riverside Transportation Department are also to be taken into account. Primary access roads and parking lots shall be surfaced with aggregate that is hard enough that vehicles cannot crush it and thus cause dust or compacted soil conditions. Paving may also be used on access roads and parking lots. Alternatively, chemical dust suppressants or durable polymeric soil stabilizers would be used on these locations.

3.9.5 CEQA Significance Criteria

In compliance with CEQA requirements, determinations were made regarding the significance of each identified impact that would potentially result from construction, operation and maintenance, and decommissioning of the Project. Appropriate criteria derived from the CEQA Guidelines have been identified and utilized to make these significance determinations. Impacts resulting from the proposed Project would be considered significant and would require mitigation if the Project would:

- Violate any water quality standards or waste discharge regulations (see Impact HDY-1);
- 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 (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)(see Impact HDY-2);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site (see Impact HDY-3);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site (see Impact HDY-4);

- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff (see Impact HDY-5);
- Otherwise substantially degrade water quality (see Impact HDY-6);
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map (see Impact HDY-7) ;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam (see Impact HDY-8); or
- Be at risk of inundation by seiche, tsunami, or mudflow (see Effects Found Not to Be Significant).

The following additional significance criteria from the County of Riverside Environmental Assessment Form are used in the analysis. A project could have potentially significant impacts if it would:

- Include new or retrofitted Stormwater Treatment Control BMPs (e.g., water quality treatment basins, constructed treatment wetlands), the operation of which could result in significant environmental effects (i.e., increased vectors and/or odors). (see Effects Found Not to Be Significant);
- Cause changes in absorption rates or the rate and amount of surface runoff (see HDY-5); or
- Cause changes in the amount of surface water in any water body (see Impact HDY-3 and HDY-4).

Effects Found Not to Be Significant

It has been determined that the Project would not result in impacts related to the following significance criteria.

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

The proposed Project would not include the construction of any residential units, and would not introduce new housing to the area; therefore, no impact would occur to housing placed within a 100-year flood hazard area.

- Be at risk of inundation by seiche, tsunami, or mudflow.

The Project would not be in a location that could be affected by a tsunami or seiche. The Project would be in an area characterized by well-drained soils and low precipitation and would not be within a State of California Earthquake Fault Zone for known active faults, and no known or potentially active faults are mapped within the vicinity of the Project area (the nearest active fault

is approximately 60 miles away). The Project would not be affected by or result in a mudflow; no impact would occur.

- Include new or retrofitted Stormwater Treatment Control BMPs (e.g., water quality treatment basins, constructed treatment wetlands), the operation of which could result in significant environmental effects (i.e., increased vectors and/or odors).

The Project would not include new or retrofitted stormwater treatment control BMPs, including those mentioned above; therefore, no impact would occur.

3.9.6 Impact Analysis

Impact HYD-1: The Project could violate water quality standard or waste discharge regulation. This impact would be *less than significant with mitigation incorporated.*

Construction of the solar facility, gen-tie lines, new substations, access roads, and O&M buildings would require ground-disturbing activities, including clearing and grading for structure installation work areas, and access for construction. Construction of these facilities would involve the use of bulldozers, graders, semi-trucks, and various other heavy machinery, and would involve changes to on-site topography. These activities would potentially loosen existing surface soils and sediments, increasing the potential for erosion during storm events. Construction-related erosion and sedimentation as a result of soil disturbance would be minimized with preparation of a Drainage, Erosion, and Sedimentation Control Plan (BMP-1) and Stormwater Pollution Prevention Plan (BMP-2). The SWPPP would identify site surface water runoff patterns and include measures that prevent excessive and unnatural soil deposition and erosion throughout and downslope of the Project area and Project-related construction areas, and would also include measures for non-stormwater discharge and waste management.

With the exception of Pole 43 and the temporary access road as shown on **Figure 3.9-2**, BMP-11 would ensure that all Project facilities would be sited no less than 100 feet from natural washes. Construction of Pole 43 and the access road would result in a maximum of 0.849 acre of temporary disturbance and 0.002 acre of permanent disturbance to an existing ephemeral stream, which is tributary to the Colorado River, a Traditional Navigable Water of the United States. Because construction of Pole 43 would result in a discharge of dredged material into waters of the United States (U.S.), a USACE permit would be required pursuant to Section 404 of the Clean Water Act (33 USC 1344; 33 CFR parts 323 and 330). On December 8, 2015, the USACE issued a letter determination stating that construction of Pole 43 as proposed, complies with Nationwide Permit (NWP) 12, *Utility Line Activities*. A full copy of the letter is provided in Appendix G. Potential impacts to this ephemeral stream include ground-disturbing activities associated with gen-tie line construction, such as grading, fill and the installation of a permanent structure (Pole 43). Adherence to permit conditions under NWP 12 would ensure that construction of Pole 43 would not violate Section 404 of the Clean Water Act. Construction of Pole 43 also requires a Clean Water Act Section 401 permit from the RWQCB. On January 15, 2016, the RWQCB issued an Order for Technically-Conditioned Clean Water Act Section 401 Water Quality Certification for the construction of Pole 43. A full copy of the order is provided in Appendix G.

Fuel, oil, and other fluids used in construction vehicles, equipment, and heavy machinery could enter drainages via storm flow and contaminate water, introducing additional sources of polluted stormwater runoff. Implementation of BMP-9, in addition to BMP-2, would minimize the potential for accidental release of motor oil, fuel, antifreeze, hydraulic fluid, grease, and other hazardous materials. In addition, BMP-8 requires that upon completion of construction activities, all unused materials and equipment shall be removed from the Project area.

Hazardous material storage and management would be implemented in accordance with requirements set forth by the Riverside County Fire Department (RCFD), Riverside County Office of Emergency Services, DTSC, and CUPA for storage and handling of hazardous materials. Implementation of BMP-9 would minimize the potential for accidental release of motor oil, fuel, antifreeze, hydraulic fluid, grease, and other hazardous materials. In addition, construction activities would occur according to Occupational Safety and Health Administration (OSHA) regulatory requirements. Please see section 3.8, *Hazards and Hazardous Materials*, for additional information regarding hazardous materials. For all these reasons, it is not anticipated that construction activities for the Project would release hazardous materials, substances, or waste.

The new substations and O&M building would create new areas of impermeable surfaces, which have the potential to increase the rate of stormwater runoff, leading to increased erosion and long-term siltation and flooding downstream of the new impermeable areas, and could contribute additional sources of polluted runoff. However, implementation of BMP-1 and BMP-2 would minimize impacts to water quality that would result from erosion and increased turbidity and sedimentation downstream. Maintenance of access roads and structure pads (e.g., gravelling and vegetation clearance) would contribute additional sources of runoff. However, with implementation of BMP-15, new access roads and parking lots would be designed and constructed with the appropriate road design standards to follow natural land contours and avoid existing desert washes. The O&M buildings would generate a minimum volume of wastewater as result of daily activities. Wastewater would be treated via a septic system permitted through the Riverside County Department of Environmental Health Services, and would be in compliance with Department requirements.

Temporary, direct impacts to water quality could result from stormwater runoff during construction and operation of the Project, resulting in erosion and increased turbidity and sedimentation downstream. In addition, stormwater runoff could transport fuel, oil, and other fluids into drainages via stormwater flow. Implementation of BMPs listed above would reduce potential impacts to water quality from sedimentation, turbidity, and oil/chemical contamination. The impact before implementation of mitigation measures would be significant however. Mitigation Measure Mitigation Measure HYD-1 which requires that existing crossings be utilized at streams, washes, and irrigation channels to the extent feasible and new access roads not required for ongoing operation and maintenance shall be permanently closed after construction using the most effective and least environmentally damaging methods appropriate to that specific area, with concurrence of the land manager (e.g., stockpiling and replacing topsoil, rock replacement), would mitigate impacts to water quality to a less than significant level.

Mitigation Measures

Implementation of Mitigation Measures HYD-1 and BIO-9 would mitigate Impact HYD-1 (see Section 3.4.8 and 3.9.8).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures BIO-9 and HYD-1.

Impact HYD-2: The Project could 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. This impact would be *less than significant.*

It is assumed that Project construction, operation, maintenance, and decommissioning would not involve the use of groundwater pumped from existing wells on site. The current source of water for agriculture is provided by the Palo Verde Irrigation District (PVID) from its Colorado River contract. During the 36-month (three-year) construction period for the Project, approximately 1,500 acre feet (ac-ft) of water (500 ac-ft/yr) would be required. Construction water would be used for dust suppression, concrete manufacturing, fire safety, and the implementation of mitigation measures. In addition, construction of the new substations and operation and maintenance buildings would introduce a new but small area of impermeable surfaces that would potentially interfere with groundwater recharge within the groundwater basin.

During operation, the Project would require a limited amount of water for washing of the solar panels, fire water supply, vegetation maintenance, and supply for the operations and maintenance buildings. Approximately 302 ac-ft/yr of water, which corresponds to an average flow rate of about 187 gallons per minute, would be used for operation and maintenance activities, including twice-yearly cleaning of the solar arrays. All of this demand would be met with non-potable supplies, except for potable water for the operations and maintenance building, which would amount to a few thousand gallons per day. Non-potable water for the Project would be provided from existing PVID surface water entitlements that support the agricultural operations currently on the site. Currently, these operations are not supported by groundwater.

The Project's potable water supply would be provided by Riverside County Service Area #122. On October 26, 2012, Riverside County issued a Will Serve letter stating that Riverside County Service Area #122 will be able to serve the proposed Project operations and maintenance buildings with potable water to support the Project (see Appendix G). A Water Supply Assessment conducted for the Project (and contained in Appendix G) determined that adequate water supplies exist to serve the Project's non-potable water demand, whether the Project is served through surface diversions (as is currently done for the agricultural operations) or served through groundwater extraction, which is not anticipated. Construction and operation of the Project would create a new but small area of impermeable surfaces (nominal compared to the overall solar facility surface area) that could potentially interfere with groundwater recharge. The very small area that would become impermeable would not significantly interfere with groundwater recharge. The Project would reduce infiltration to the groundwater basin from agricultural irrigation recharge in the amount of 72 AF per year. However, this is more than

offset by the Project's 2,903 ac-ft/yr (POWER, 2012) reduction of on-site water demand from the existing agricultural uses. This overall reduction in water demand would translate into a net increase in available PVID water supply.

Accordingly, there would be no substantial depletion of groundwater supplies or interference with groundwater recharge, and impacts to groundwater resources would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact HYD-3: The Project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site. This impact would be *less than significant with mitigation incorporated.*

Construction of the Project would require ground-disturbing activities such as grading and excavation followed by solar array installation, substation and O&M building construction, and construction of access roads. Construction of the proposed Project would not permanently alter the course of any of the drainages. With the exception of Pole 43, BMP-11 would ensure that Project facilities would be sited no less than 100 feet from natural washes. However, grading could potentially temporarily alter naturally occurring drainage patterns and result in soil erosion, sedimentation, long-term siltation, and increased stormwater runoff**.** Blading and other methods of vegetation removal for clearance of roads and construction areas decrease the ability of the soil to absorb water, which also increases stormwater runoff from such disturbed areas. The Project area is relatively flat and would not require mass grading for construction purposes; however, temporary stream crossings, blading and vegetation removal may be required for road construction and installation of solar arrays and other Project components.

The ephemeral washes that cross portions of the solar facility site and gen-tie line may be affected by construction, operation, and maintenance of the proposed Project. In accordance with BMP-11, Project facilities and solar panels would be designed to provide adequate setbacks between most solar facility components (solar panels, gen-tie lines, substations, access roads, and O&M buildings) and ephemeral washes. These setbacks would preserve and maintain the hydrological functions of these washes to the extent possible. However, an existing access road (Buck Road) that crosses the Southern Wash at a low-water crossing would be utilized during construction, potentially affecting the stream bed and bank and subsequently water quality. Alteration of the bed and bank would be avoided or minimized through implementation of standard BMPs (e.g., use of geomats and fiber rolls in wetted or soft portions of the stream) as described in BMP-1 Drainage, Erosion, and Sedimentation Control Plan, and BMP-2 Stormwater Pollution Prevention Plan. Additionally, one pole of the gen-tie line (Pole 43) would be installed within the potential ordinary high water mark area of the southernmost drainage (ephemeral stream) requiring 0.002 acre of permanent disturbance, as shown on **Figure 3.9-2**. Construction of Pole 43 would require authorization under the Clean Water

Act. On December 8, 2015, the USACE determined that the proposed construction of Pole 43 would comply with NWP 12, *Utility Line Activities* (see Appendix G for Permit Verification letter from USACE). Adherence to permit conditions under NWP 12 would ensure that construction of Pole 43 would not violate Section 404 of the Clean Water Act and would not substantially alter the existing drainage pattern of the area in a manner which would result in substantial erosion or siltation on or off site. This drainage would also be protected from erosion and alteration via implementation of BMP-1 and BMP-2.

The impact before implementation of mitigation measures would be significant. However, implementation of Mitigation Measures BIO-9, HYD-1, HYD-2, and HYD-3, would minimize ground disturbance from road construction at streams, washes, and irrigation channels as well as reduce potential for erosion and sedimentation from stormwater draining from the substations. Impacts would be reduced to less than significant. Operation of the solar facility and gen-tie line would not impact the existing drainage pattern of the site or area. Decommissioning of the Project would require the removal of the solar facility and gen-tie line. Therefore, it would not substantially alter the existing drainage pattern of the site or area.

Mitigation Measures

Implementation of mitigation measures BIO-9, HYD-1 through HYD-3 would mitigate Impact HYD-3 (see Sections 3.5.8 and 3.9.8).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures BIO-9 and HYD-1 through HYD-3.

Impact HYD-4: The project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, and substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site. This impact would be *less than significant with mitigation incorporated.*

Construction of the Project would require ground-disturbing activities such as grading and excavation followed by solar array installation, substation and O&M building construction, and construction of access roads, which may impact the ephemeral washes as described in HYD-3. Erosion and other potential alteration of the bed and bank would be avoided or minimized through implementation of standard best management practices (e.g., use of geomats or fiber rolls in wetted or soft portions of the stream) as described in BMP-1 Drainage, Erosion, and Sedimentation Control Plan, and BMP-2 Stormwater Pollution Prevention Plan. Additionally, Pole 43 would be within the ordinary high water mark of the southernmost drainage (ephermeral stream) requiring 0.002 acre of permanent disturbance, as shown on Figure 3.9-2. Construction of Pole 43 would require authorization under the Clean Water Act. On December 8, 2015, the USACE determined that the proposed construction of Pole 43 would comply with NWP12, *Utility Line Activities* (see Appendix G for Permit Verification letter from USACE). Adherence to permit conditions under NWP 12 would ensure that construction of Pole 43 would not substantially alter the existing drainage pattern of the area in a manner which would result in flooding on or off site.

The impact before implementation of mitigation measures would be significant. However, implementation of Mitigation Measures BIO-9 and HYD-1 through HYD-4 would further reduce alteration of existing drainage patterns resulting from road construction and stormwater drainage from the substations, and minimize potential for flooding on- or off-site to a less than significant level.

Mitigation Measures

Implementation of mitigation measures BIO-9, HYD-1 through HYD-4 would mitigate Impact HYD-4 (see *Sections 3.4.8* and *3.9.8*).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures BIO-9 and HYD-1 through HYD-4.

Impact HYD-5: The Project could create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. This impact would be *less than significant with mitigation incorporated.*

Installation of the new substations and the O&M building would create new areas of impermeable surfaces with potential to increase the rate of stormwater runoff, leading to increased erosion and long-term siltation and flooding downstream of the new impermeable areas, and contribute additional sources of polluted runoff. Maintenance of access roads and structure pads (e.g., gravelling and vegetation clearance) would contribute additional sources of runoff. Implementation of BMP-1, BMP-2, BMP-9, and BMP-15would minimize the volume of stormwater runoff and reduce potential for polluted stormwater from leaving the Project area. The impact before implementation of mitigation measures would be significant. However, Mitigation Measures HYD-3 and HYD-4 would reduce impacts to a level less than significant.

Mitigation Measures

Implementation of Mitigation Measures HYD-3 and HYD-4 would mitigate Impact HYD-5 (see *Section 3.9.8* below).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures HYD-3 through HYD-4.

Impact HYD-6: The project could substantially degrade water quality. This impact would be *less than significant with mitigation incorporated.*

The potential for the Project to result in water quality degradation is evaluated under Impact HYD-1, HYD-3, and HYD-5. No further sources of water quality degradation have been identified. No impact would occur related to Impact HYD-6. As discussed above under Impacts HYD-1, HYD-3, and HYD-5, this impact before implementation of mitigation measures would be significant. However, Mitigation Measures BIO-9 and HYD-1 through HYD-4 would reduce impacts to a level less than significant.

Mitigation Measures

Implementation of Mitigation Measures BIO-9 and HYD-1 through HYD-4 would mitigate Impact HYD-6 (see *Sections 3.4.8* and *3.9.8*).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures BIO-9 and HYD-1 through HYD-4.

Impact HYD-7: The Project would place within a 100-year flood hazard area structures which would impede or redirect flood flows. This impact would be *less than significant with mitigation incorporated.*

The Project would be located in an area designated by the Federal Emergency Management Agency as Zone D, which is reserved for areas where there are possible but undetermined flood hazards, and where no flood hazard analysis has been conducted. However, the Project would be located on the Palo Verde Mesa, which is on high ground, at an elevation approximately 50 feet above the historic floodplain of the Colorado River (i.e., Palo Verde Valley). Additionally, the Project would be located approximately eight miles west of the current channel of the Colorado River, and it is unlikely the Project would impede or redirect flows in a 100-year flood from the Colorado River. Flood hazard area and flood depth was calculated for the ephemeral wash east of the Northern Substation. While some solar panels may be sited within this flood hazard area, they would be installed at heights that would place them above the calculated flood depths and the potential to impede or redirect flood flows would be minimized.

The ephemeral wash east of the Northern Substation was analyzed to determine the depth and extent of a 100-year flood hazard area associated with this drainage. The extent of the floodplain for this area is delineated in **Figure 3.9-3** Floodplain Delineation.[1] The analysis determined a 100-year flood flow would have a flow velocity of 12,416 cubic feet per second (cfs) in the main channel and 4.0 cfs where the floodplain would overlap the solar array; flood depth in this location would be 2.4 feet and would otherwise generally be contained within the channel and setback areas, and scour would be minimal. Based on the results of this analysis, impacts would be significant prior to mitigation. With implementation of Mitigation Measure HYD-5, solar panels and associated hardware would be elevated to provide additional clearance above the calculated 100-year flood depth, and structures that could not be relocated (e.g., gen-tie line structures) would be designed to withstand potential flood hazards.

An existing access road crosses this wash at a low water crossing approximately one mile east of the Northern Substation; approximately 750 feet of this access road is located within the calculated 100-year floodplain and approximately 150 feet would be within the estimated ordinary high water mark (OHWM). The existing access road measures 18 feet wide and is sufficient to meet the requirements of construction vehicles and equipment without improvement. No structures would be placed within these flood zones that would impede or redirect flood flows. Implementation of Mitigation Measure HYD-6 would require perimeter fencing that

[1] The floodplain delineation was determined using NOAA Atlas 14 precipitation values consistent with Riverside County Flood Control and Water Conservation District Hydrology Manual, 1978 and County ordinance 458.

allows for free flow of storm or flood runoff, further reducing potential for flood debris to impede or redirect flood flows.

The ephemeral stream that bisects the gen-tie line was analyzed to determine the depth and extent of a 100-year flood hazard area associated with this drainage. The extent of the floodplain for this area is delineated in Figure 3.9-3 Floodplain Delineation. The analysis determined a 100-year flood flow would have a flow velocity of 5,557 cfs and, given the wide, flat nature of the topography, flood depths would be shallow (3.71 feet maximum depth) and average stream velocities would vary from 6.8 feet per second (4.6 mph) to 2.4 feet per second (1.6 mph) outside of the main channel, and scour would be minimal. Based on the results of this analysis, structures that could not be relocated (e.g., transmission line structures) would be designed to withstand potential flood hazards in accordance with a final Floodplain Delineation Study as described in Mitigation Measure HYD-5.

Implementation of mitigation measures HYD-5 and HYD-6 would mitigate impacts to flood flows in 100-year flood hazard areas to a less than significant level.

Mitigation Measures

Implementation of mitigation measures HYD-5 and HYD-6 would mitigate Impact HYD-7 (see *Section 3.9.8* below).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measure HYD-5 and HYD-6.

Impact HYD-8: The project could expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. This impact would be *less than significant.*

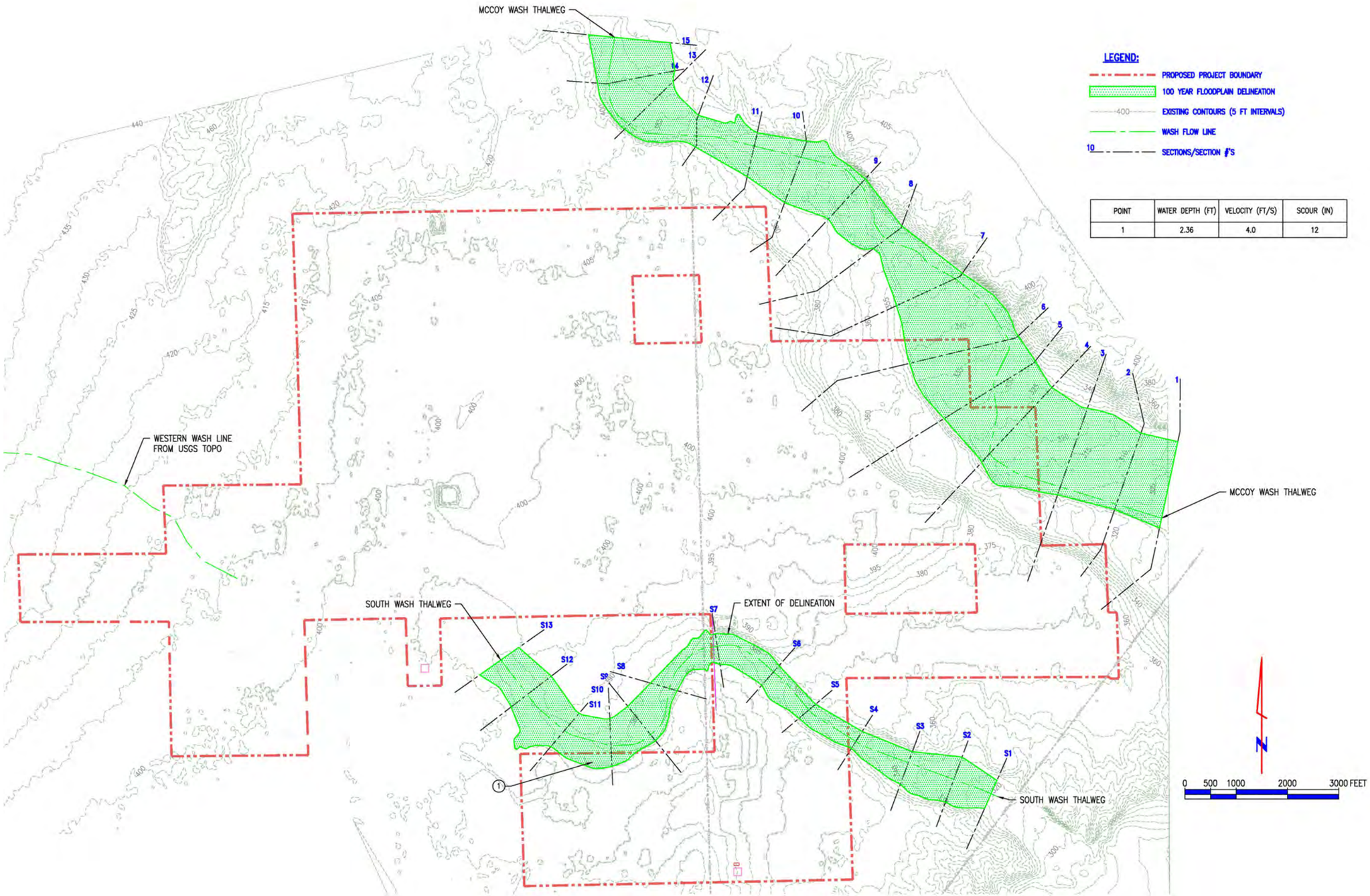
The Project would not involve work in the vicinity of a levee or dam, nor would the Project be located such that it would expose people or structures to significant risk of loss, injury, or death involving flooding. With the exception of Pole 43, Project facilities would be sited with adequate space between solar facilities and natural washes (BMP-11) to preserve and maintain natural washes' hydrological functions. Pole 43 would not be a habitable structure and would be designed to withstand potential flood hazards. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.9-3
Floodplain Delineation

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3.9.7 Cumulative Impacts

The Project is located in an undefined Hydrologic Sub-Area (HSA 715.40) of the Palo Verde Hydrologic Area (Palo Verde Mesa) within the Colorado (River) Hydrologic Unit in eastern Riverside County, California. Due to the low precipitation, surface water is generally minimal on the Palo Verde Mesa, limited to ephemeral and intermittent drainages with the exception of the Colorado River. The Project would be located near the eastern edge of the Palo Verde Mesa, above the Palo Verde Valley and west of the 100-year floodplain of the Colorado River. There are several washes terminating in or passing through the Project area, as shown in **Figure 3.9-1**, Jurisdictional Waters.

Cumulative impacts to hydrology and water quality include the impacts of the Project together with those likely to occur as a result of other existing, proposed, and reasonably foreseeable projects. The Project would be located within an undefined Hydrologic Sub-Area (HSA 715.40) of the Palo Verde Hydrologic Area. Since the Project has the potential to affect the entire hydrologic sub-area, rather than just the immediate Project vicinity, this HSA defines the impact area for this cumulative impact analysis.

There are approximately 30 planned projects that are also within the Palo Verde Hydrologic Area, which have the potential to contribute to cumulative hydrologic and water quality impacts in the geographic scope. These related projects generally consist of solar, wind energy, and electrical facilities projects, with some commercial and residential development (see Table 3-2, Cumulative Project List, Environmental Setting, Impacts, and Mitigation Measures). These projects have the potential to introduce new or exacerbate existing pollutant generation associated with residential, commercial and industrial uses that could wash into or pollute surface water quality. These projects could also contribute to increased runoff due to increases in impervious surfaces. However, all reasonably foreseeable future projects in the subwatershed would be required to implement similar measures as the proposed project when obtaining the required permits that implement compliance with the RWQCB NPDES requirements. These NPDES requirements were developed to reduce the cumulative impacts to water quality, and to ensure that the incremental effects of individual projects do not cause a substantial cumulative impact related to water quality. Therefore, the combined effects to water quality from the cumulative projects within the geographic scope would not be considered significant.

As described previously, the project would involve changes to on-site topography, which could alter the site's hydrology and impact water quality. Temporary, direct impacts to water quality could result from stormwater runoff during construction and operation of the Project, resulting in erosion and increased turbidity and sedimentation downstream. However, BMPs are included to reduce the hydrology and water quality impacts. In addition, Mitigation Measures BIO-9 and HYD-1 through HYD-6 would mitigate any remaining project impacts related to hydrology and water quality, thereby by reducing the project's impact significance to a less than significant level. Given that the Project area has minimal surface drainage features and minimal grading requirements, and that the Project would involve implementation of BMPs and mitigation measures and create minimal impervious surfaces, the Project's incremental contribution to the cumulative scenario would be minimal and not substantial enough to affect the scope, nature or

extent of cumulative hydrology or water quality impacts. The Project's contribution would therefore not be cumulatively considerable.

Mitigation Measures

Mitigation Measures BIO-9 and HYD-1 through HYD-6 would mitigate cumulative impacts.

Significance after Mitigation

Cumulative impacts would be less than significant after implementation of Mitigation Measures BIO-9 and HYD-1 through HYD-6.

3.9.8 Mitigation Measures

HYD-1 Existing drainage crossings shall be utilized at streams, washes, and irrigation channels to the full extent necessary to reduce impacts to less than significant levels. New access roads not required for ongoing operation and maintenance shall be permanently closed after construction using the most effective and least environmentally damaging methods appropriate to that specific area, with concurrence of the land manager (e.g., stockpiling and replacing topsoil, rock replacement) in a manner that most closely matches undisturbed or pre-developed conditions of the area to emulate natural drainage patterns.

HYD-2 Roads would be built as near as possible to right angles to streams and washes. Culverts would be installed where necessary and sized in accordance with local county regulations. All construction and maintenance activities shall be conducted in a manner that would minimize disturbance to vegetation and drainage channels, including ephemeral stream banks. Culverts shall also be designed with minimum impacts to floodplains. Any encroachment into or modification of the floodplain shall only be permitted in accordance with the District's approval based on demonstrative evidence that no adverse effects would occur upstream or downstream of the site. In addition, road construction would include dust-control measures during construction especially in sensitive areas. All existing roads would be left in a condition equal to or better than their condition prior to the construction of the gen-tie line and other Project components.

HYD-3 Stormwater drainage inside substations would be designed to minimize erosion and increase sediment control. Internal runoff would be released from the switching station by means of surface drainage structures designed to filter contaminants from water flow. Drainage from the property would be collected and controlled by surface improvements, as detailed in the Drainage, Erosion, and Sedimentation Control Plan (BMP-1).

HYD-4 New pervious areas associated with temporary construction would be restored to existing conditions, including but not limited to revegetation, to the extent possible after completion of Project construction.

HYD-5 All new buildings (e.g., substation) shall be flood-proofed by constructing the finished floor a minimum of 24 inches above the highest adjacent ground or 100 year water surface elevation, whichever is greater, based on a final Floodplain Delineation Study with supporting calculations in accordance with County requirements. The

final Floodplain Delineation Study shall be approved by the County prior to issuance of a building permit. Slope protection may be required for buildings on fill. New buildings shall be located outside of the well-defined watercourses of the floodplains. Additionally, the solar panels shall have a minimum clearance of 24 inches above the highest adjacent ground when upright to ensure flows are not obstructed.

HYD-6 No flow obstructing fences (chain link, block wall, etc.) shall be constructed along the north and west property lines, since these types of fences obstruct flows causing damage to adjacent properties. Fencing used in these areas shall contain openings of 3 inches high by 6 inches wide for first 18" from the bottom, and openings of 4 inches high by 6 inches wide for the next 8 inches and so forth. This fencing or equivalent shall be provided to allow the free flow of storm or flood runoff. No setback is required with the use of this fencing. A detail of this fencing shall be provided to the County of Riverside.

3.10 Land Use and Planning

This section describes existing land uses and land use plans and policies in the Project area. Land use can be assessed by analyzing current land activities, land ownership, zoning (where applicable), and consistency with existing land use plans, ordinances, regulations, and policies.

3.10.1 Environmental Setting

Regional Setting

The Project area would be located in eastern Riverside County, approximately seven miles west of the Colorado River and 40 miles east of Desert Center (refer to Figure 2-4, *Regional Area*, in Chapter 2). The Project area is located on the Palo Verde Mesa, and is part of the Colorado Desert. The Project area is approximately five miles northwest of the of Blythe city center and bounded on the north by McCoy Wash, on the east by agricultural lands, on the west by BLM-managed public lands, and on the south by the Blythe Airport and other private lands that include agricultural and utility uses. The Project would be located north of I-10 and west of Highway 95. Development in the surrounding area consists of agricultural fields and groves, residences, the Blythe Airport, the Blythe Energy Center, electrical transmission lines, and commercial businesses. The Project area is also adjacent to BLM's Riverside East Solar Energy Zone (see Figure 2-2 in *Chapter 2*). The surrounding regional area also includes undeveloped open desert that is managed by the BLM (refer to Figure 2-3, *BLM Designated Utility Corridors*, in Chapter 2).

Local Setting

On-Site Land Uses

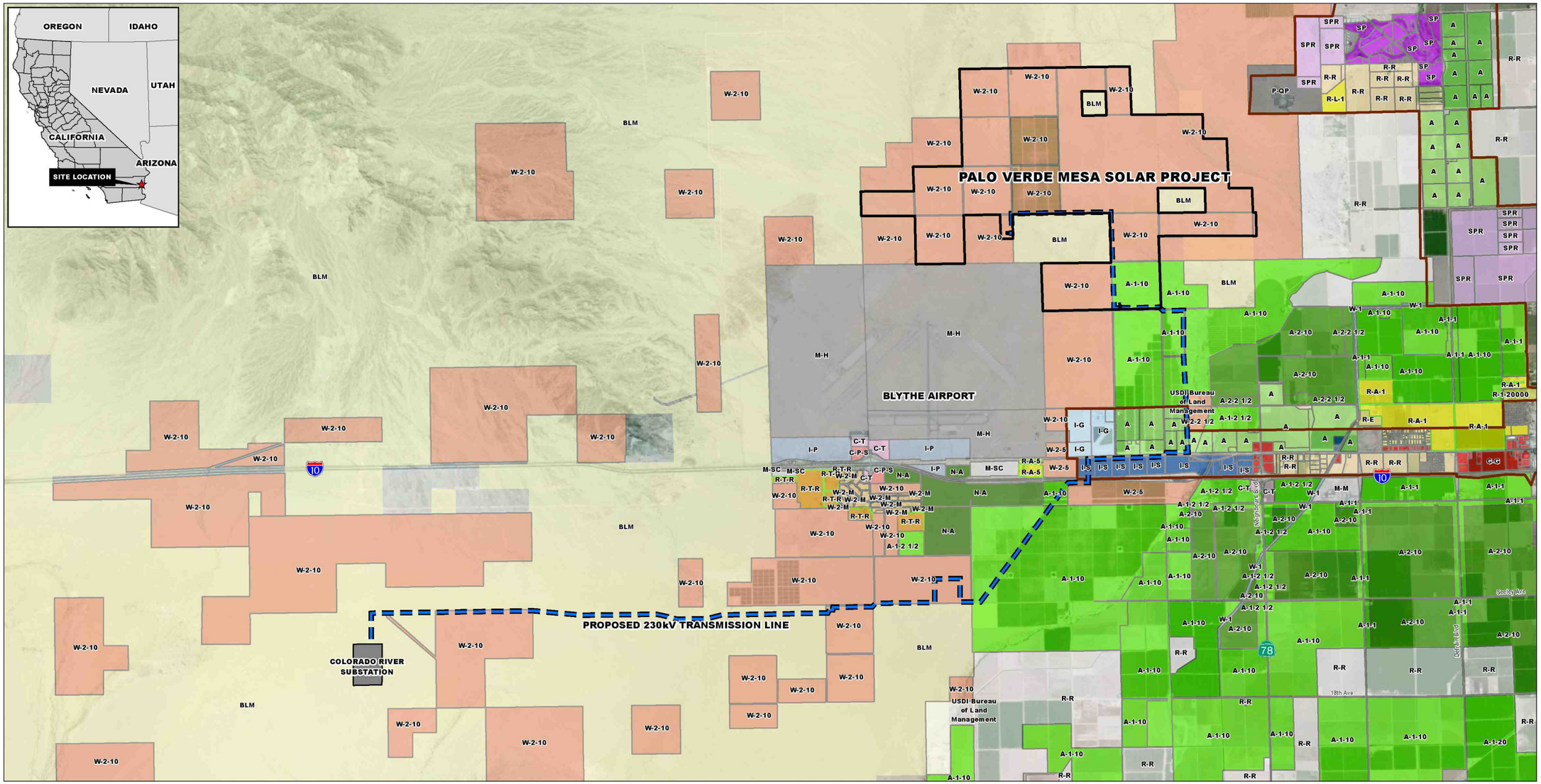
The Project is located within unincorporated Riverside County, City of Blythe Sphere of Influence, and the City of Blythe. The proposed 450 MW PV electrical generating facility and 14.5-mile gen-tie line would occupy a total of approximately 3,400 acres. The solar facility would be located on the mesa above the Palo Verde Valley floor. The solar facility including all of the solar panels, substations, inverters, and O&M facility would occupy 3,250 acres on privately owned land under the jurisdiction of the County. The Project area consists primarily of agricultural land, including wheat fields and citrus orchards. Approximately 2.7 miles of the gen-tie line would be within the solar facility site. The gen-tie line would extend off site another 11.8 miles from the solar facility site to Colorado River Substation within a 100-foot-wide right-of-way (ROW). The ROW would traverse 6.1 miles (73.8 acres) of County of Riverside jurisdiction, 1.7 miles (21.0 acres) of City of Blythe jurisdiction, and 4 miles of BLM-managed lands (48.2 acres), for a total ROW area of 143 acres.

Agricultural land and developed or disturbed land comprises over 90 percent of the Project's solar facility site. Agriculture is the predominant land use on-site. The proposed solar facility site includes both active and previously farmed agricultural lands. Active agricultural uses include non-irrigated winter wheat and citrus. See Section 3.2, *Agriculture and Forestry Resources*, for more information. The solar facility site would be situated on the north side of I-10, a major regional transportation corridor extending east-west through the region. The Project area is

located generally west of Arrowhead Boulevard and north of 10th Avenue. The zoning for the Project area is illustrated in **Figure 3.10-1**.

The Riverside County Palo Verde Valley Area Plan (PVVAP) applies an Agriculture land use designation to the proposed solar facility site, with parcels currently zoned W-2-10 (Controlled Development Areas [10 Acre Min.]), and A-1-10 (Light Agriculture). The land use designations for the Project area are illustrated in **Figure 3.10-2**. The gen-tie line would traverse mainly County of Riverside jurisdiction, 1.7 miles (21 acres) of City of Blythe, and approximately 4 miles (48 acres) of BLM-managed lands. The Riverside County PVVAP applies an Agricultural land use designation to the private parcels crossed by the gen-tie corridor, with parcels zoned as W-2-5 (Controlled Development Areas [Five Acre Min.]), W-2-10 (Controlled Development Areas [Ten Acre Min.]), and A-1-10 (Light Agriculture). A portion of the gen-tie line under County of Riverside jurisdiction would also traverse the City of Blythe Sphere of Influence. Within the City of Blythe, the proposed gen-tie line would traverse private parcels zoned Service Industrial and Agriculture. On BLM-managed lands, the gen-tie line would be located within designated utility corridors and within the jurisdiction of the California Desert Conservation Area (CDCA) Plan.

As seen in **Figure 3.10-3**, BLM Multiple-Use Classes and Utility Corridors, the portion of the Project's gen-tie line that would traverse BLM-managed lands within the CDCA Plan is designated Multiple-Use Class M (Moderate). Two isolated parcels of BLM-managed lands (APNs 821020013 and 821060007) are surrounded by the solar facility site, but are not part of the Project. APN 821020013 is designated as Class L (Limited) and APN 821060007 is unclassified. Within the CDCA Plan, the Project's gen-tie line would be located within BLM's Utility Corridor K, which is also designated as Section 368 Federal Energy Corridor 30-52. On private land, the Project would overlap BLM's Utility Corridors J and/or K.



Zoning - County of Riverside

- A-1-1
- A-1-10
- A-1-2 1/2
- A-1-20
- A-2-10
- A-2-2 1/2
- C-P-S
- C-T
- I-P
- M-H
- M-M
- M-SC
- N-A
- R-1-20000
- R-A-1
- R-A-5
- R-R
- R-T-R
- W-1
- W-2-10
- W-2-2 1/2
- W-2-5
- W-2-M

Zoning - City of Blythe

- A
- C-G
- I-G
- I-S
- P-QP
- R-E
- R-L-1
- R-L-1-72
- R-R
- SPR
- SP

Jurisdiction

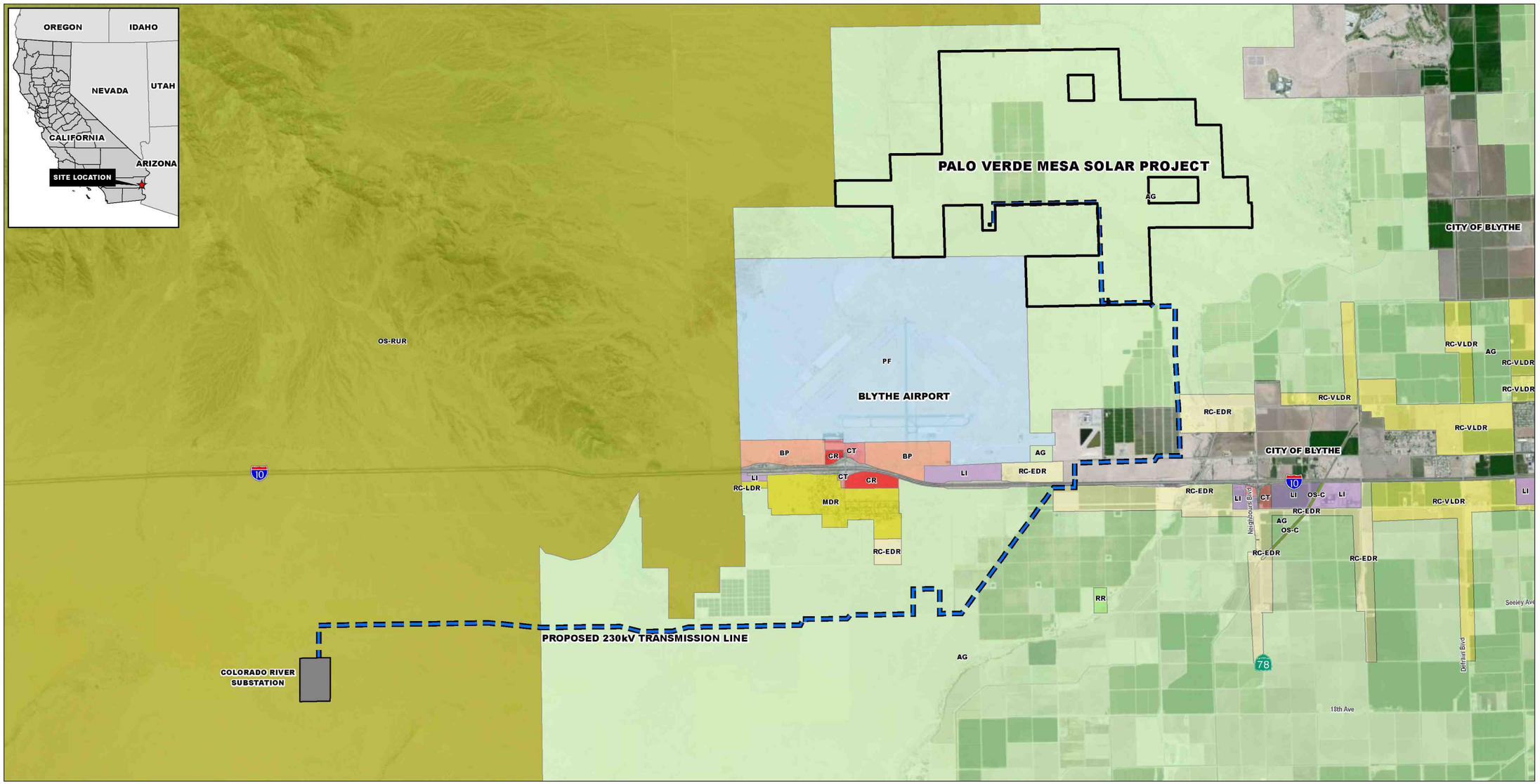
- Bureau of Land Management
- City of Blythe

- Project Area
- Palo Verde Mesa 230kV Line
- Colorado River Substation

0 1 2 Miles

SOURCE: POWER Engineers

Figure 3.10-1
Zoning

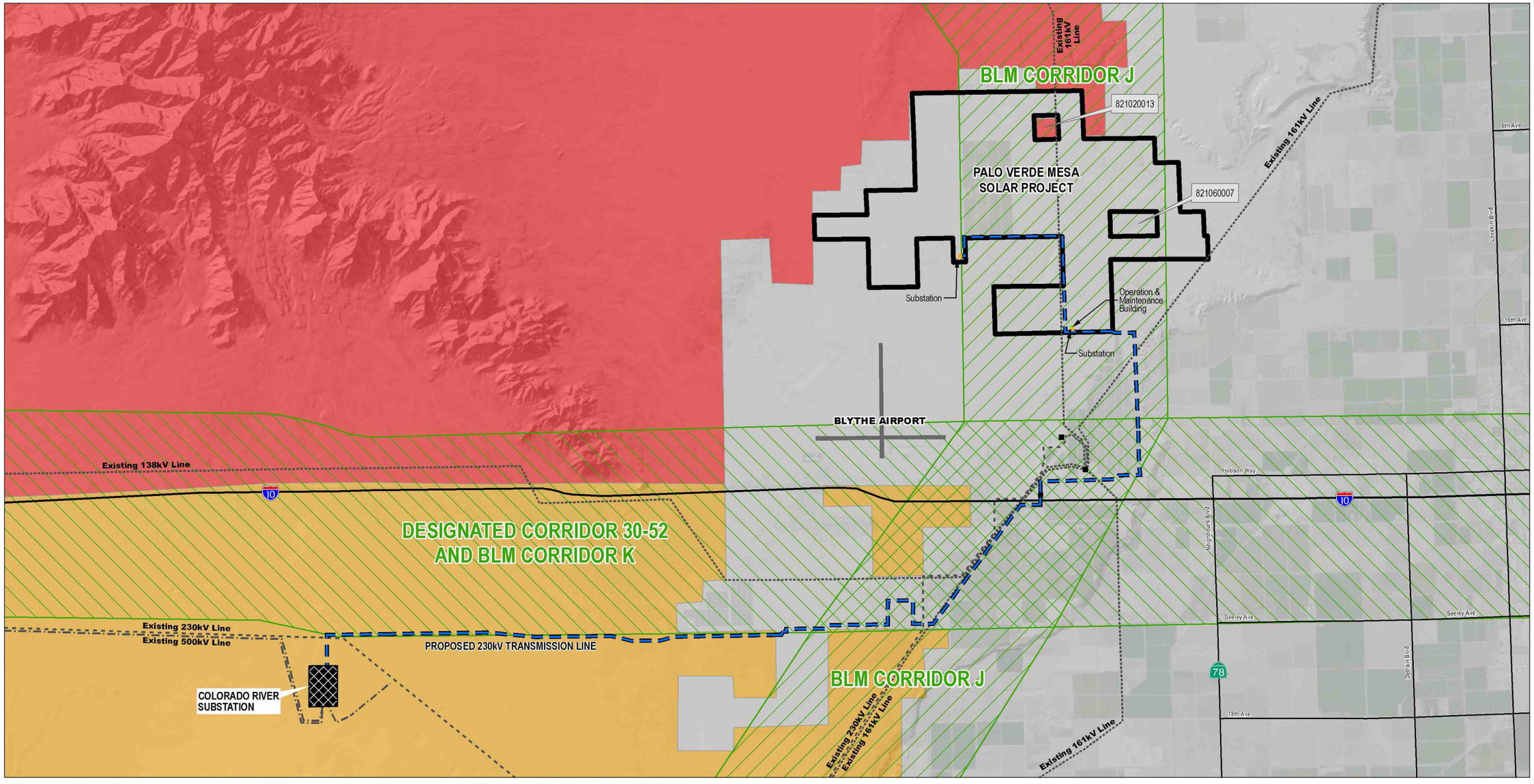


SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.10-2

General Plan Land Use



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.10-3

BLM Multiple-Use Classes and Utility Corridors

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Surrounding Land Uses

Land uses surrounding the Project consist primarily of open space and agricultural lands. Other uses in the area include the unincorporated community of Mesa Verde/Nicholls Warm Springs, Blythe Airport, Blythe Energy Center, Blythe Solar Project (owned by NRG), Blythe Substation, electrical transmission lines, ancillary agricultural facilities, and dirt roads.

The residential development known as Mesa Verde (Nicholls Warm Springs) is located on the south side of I-10. This community is mainly composed of single-family dwellings and mobile homes. There are also a small number of dispersed farm and rural residences in the surrounding area near the solar facility, mostly located to the southeast. The nearest residence (APN 821020018) is located approximately 230 feet north of the proposed solar facility. The nearest residence (APN 82411002) to the gen-tie line is approximately 390 feet away.

The Blythe Airport is located one half-mile to the south, and highway-serving commercial uses are located at the interchange south of the Airport on the north side of I-10. The 3,094-acre airport is the largest in eastern Riverside County and serves primarily general aviation demand in the Blythe area. The Airport is classified in the National Plan of Integrated Airport Systems as a general aviation transport airport, designed to accommodate business jets, cargo-type aircraft, light private planes, and flight school training activities. The Blythe Airport currently has two runways (8/26 and 17/35). The primary runway is Runway 8/26, which is oriented generally east-west. This public facility, owned by Riverside County and managed by the City of Blythe, is often used as a base for crop spraying operations, flight rental, and flight instruction. Aircraft operations average 69 departures and landings per day (AirNav, 2012). The Blythe Airport has been designated as a County redevelopment area with the intent to encourage expansion of airport facilities and commercial and industrial development at the airport.

The area is also served by a spur line of the Arizona and California Railroad, I-10, and two State Highways. State Highway 95 runs north from Blythe to Needles and Las Vegas. State Highway 78 traverses the desert southwest from Blythe to the Imperial Valley.

Table 3.10-1 summarizes the existing land use, general and area plan land use, and zoning designations for the area surrounding the Project. Refer to Figures 3.10-1 and 3.10-2, which illustrate the County of Riverside General Plan land use designations and the County of Riverside PVVAP, and the City of Blythe zoning designations.

TABLE 3.10-1
SURROUNDING LAND USES, GENERAL PLAN, AND ZONING DESIGNATIONS

Direction from Project Solar Facility	Existing Land Use	Existing Land Use Designation
North	Agriculture and Vacant	**Riverside County General Plan Designation**
		Agriculture
		Open Space Rural
East	Agriculture and Residential	**Riverside County General Plan**
		Agriculture
		PVVAP Zoning
		Controlled Development Areas (W-2-10)
		Rural Residential (R-R)
		City of Blythe Zoning
		Agriculture (A)
		Low Density Residential (R-L-1)
		Public/quasi-public (P-QP)
		Rural Residential (RR)
		Specific Plan Resort (SPR)
South	Agriculture, Commercial, Industrial, Public Facilities and Residential	**Riverside County General Plan Designation**
		Agriculture
		Business/Office Park
		Commercial Tourist
		Commercial Retail
		Estate Density Residential
		Low Density Residential
		Medium Density Residential
		Public Facilities
		PVVAP Zoning
		Controlled Development Areas (W-2-10 and W-2-5)
		Heavy Agriculture (A-2-10 and A-2-2 1/2)
		Industrial Park (I-P)
		Light Agriculture (A-1-2 1/2 and A-1-10)
		Manufacturing-Heavy (M-H)
		Manufacturing-Service Commercial (M-SC)
		Natural Assets (N-A)
		Residential Agricultural (R-A-5)
		Scenic Highway Commercial (C-P-S)
		Tourist Commercial (C-T)
		City of Blythe Zoning
		Agriculture (A)
		General Industrial (I-G)
West	Agriculture and Vacant	**Riverside County General Plan Designation**
		Agriculture
		Open Space Rural

SOURCES: General Plan and Zoning Map for City of Blythe (03/29/07); Riverside County Land Information System (accessed 08/04/15)

3.10.2 Regulatory Framework

Federal

Federal Land Policy and Management Act, 1976 as Amended

The U.S. Congress passed the FLPMA in 1976. Title V, "Rights-of-Way (ROW)," of the FLPMA establishes public land policy and guidelines for administration, provides for management, protection, development, and enhancement of public lands, and provides the BLM authorization to grant ROW. Authorization of systems for generation, transmission, and distribution of electric energy is addressed in Section 501(4) of Title V. In addition, Section 503 specifically addresses "Right of Way Corridors" and requires common ROWs "to the extent practical." FLPMA, Title V, Section 501(a)(6) states, "[t]he Secretary, with respect to the public lands (including public lands, as defined in section 103(e) of this Act, which are reserved from entry pursuant to section 24 of the Federal Power Act (16 USC 818)) [P.L. 102-486, 1992] and, the Secretary of Agriculture, with respect to lands within the National Forest System (except in each case land designated as wilderness), are authorized to grant, issue, or renew rights-of-way over, upon, under, or through such lands for roads, trails, highways, railroads, canals, tunnels, tramways, airways, livestock driveways, or other means of transportation except where such facilities are constructed and maintained in connection with commercial recreation facilities on lands in the National Forest System."

The Applicant is requesting a grant of ROW approval from the BLM (Palm Springs-South Coast Field Office) for the portion of the gen-tie line on land under the jurisdiction of the BLM.

California Desert Conservation Area Plan, 1980 as Amended

Section 601 of the FLPMA required preparation of a long-range plan for the CDCA. The CDCA Plan was adopted in 1980 to provide for the use of public lands and resources of the CDCA in a manner that enhances, wherever possible, and does not diminish, on balance, the environmental, cultural, and aesthetic values of the Desert and its productivity. The CDCA Plan is a comprehensive, long-range plan covering 25 million acres. Approximately 12 million acres (about half) of this total are public lands administered by the BLM on behalf of the CDCA. These public lands are dispersed throughout the California Desert, which includes the Mojave Desert, the Sonoran Desert, and a small portion of the Great Basin Desert.

The CDCA Plan includes 12 elements: Cultural Resources; Native American; Wildlife; Vegetation; Wilderness; Wild Horse and Burro; Livestock Grazing; Recreation; Motorized Vehicle Access; Geology, Energy and Mineral Resources; Energy Production and Utility Corridors; and Land-Tenure Adjustment. Each of the elements contains goals and specific actions for the management, use, development, and protection of the resources and public lands within the CDCA, and is based on the concepts of multiple use, sustained yield, and maintenance of environmental quality. In addition, each element provides both a desert-wide perspective of the planning decisions for one major resource or issue of public concern as well as more specific interpretation of multiple-use class guidelines for a given resource and its associated activities.

Chapter 2 of the CDCA Plan identifies four multiple-use classes, which are used to describe a different type and level or degree of use that is permitted within that particular geographic area. The four multiple-use classes are defined below:

Multiple-Use Class C

Multiple-Use Class C has two purposes. First, it shows those areas that are being "preliminarily recommended" as suitable for wilderness designation by Congress. This process is fully explained in the Wilderness Element in the CDCA Plan. Second, it will be used in the future to show those areas formally designated as wilderness by Congress. The Class C guidelines are different from the guidelines for other classes, as they summarize the kinds of management likely to be used in these areas in the CDCA when and if they are formally designated wilderness by Congress.

Multiple-Use Class L

Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally lower intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished.

Multiple-Use Class M

Multiple-Use Class M (Moderate Use) is based upon a controlled balance between higher intensity use and protection of public lands. This class provides for a wide variety of present and future uses such as mining, livestock grazing, recreation, energy, and utility development. Class M management is also designed to conserve desert resources and to mitigate damage to those resources that permitted uses may cause. The proposed gen-tie line would be situated within Multiple-Use Class M under the BLM's CDCA Plan. Multiple-Use Class M allows energy and utility development (BLM, 1980).

Multiple-Use Class I

Multiple-Use Class I is an "intensive use" class. Its purpose is to provide for concentrated use of lands and resources to meet human needs. Reasonable protection will be provided for sensitive natural and cultural values. Mitigation of impacts on resources and rehabilitation of impacted areas will occur insofar as possible.

Utility Corridor K

The CDCA Plan identifies "planning" and "contingency" utility corridors on BLM-administered land. One of the broad goals of the BLM system of utility corridors is to implement the network of joint-use planning corridors to meet projected utility needs. Planning corridors, commonly referred to as "designated" corridors, are the locations where the BLM requests that applicants focus their attention in developing proposals for linear facilities on BLM-administered land. "Contingency" corridors are identified as having potential for use in the future and can become a "designated" corridor after completion of a land use plan amendment. Both types of corridors are identified in the CDCA Plan using an alphabetic designation.

The Project's gen-tie line would be partially located within BLM Designated Utility Corridor K, as identified in the CDCA Plan. The CDCA Plan designated utility Corridor K for "multi-modal use," allowing the following types of facilities:

- New electrical gen-tie towers and cables of 161 kV or above;
- all pipelines with diameters greater than 12 inches;
- coaxial cables for interstate communications; and
- major aqueducts or canals for interbasin transfers of water.

Utility Corridor K is also designated as Section 368 Federal Energy Corridor 30-52 in the Record of Decision for the West-Wide Energy Corridor (WWEC) Programmatic Environmental Impact Statement (EIS) (BLM, 2009). Energy Corridor 30-52 is identified for "multi-modal use," which allows for electricity transmission and distribution facilities, as well as oil, gas, and hydrogen pipelines. Section 368 corridors are identified with a numeric designation and are often overlain on locally designated corridors, as is the case with the east-west Section 368 two-mile-wide Corridor 30-52 overlying BLM Designated Utility Corridor K.

In the vicinity of the Project area, Corridor K (30-52) is aligned in an east and west direction. This corridor is shown on BLM GIS data to be 10,560 feet (two miles) in width near the Project area. It should be noted, however, that the Energy Production and Utility Corridors Element of the CDCA Plan indicates that the width of joint use corridors varies from two to five miles. Generally, the two-mile width provides sufficient flexibility in selection of alternative routes for ROW as well as sufficient space for evaluating a number of possible alternative routes. The CDCA Plan further notes, "[w]here there are so many facilities or merging corridors a five mile width is needed to ensure sufficient space for system integrity and flexibility" (BLM 1980 as amended).

Northern and Eastern Colorado Desert (NECO) Coordinated Management Plan

The NECO Plan primarily addresses recovery of the desert tortoise and conservation of a variety of other species, modifies management of wild burro herds in the planning area, and updates policies regarding off-highway vehicle (OHV) use and public lands access and use. Refer to Section 3.4, *Biological Resources*, and Section 3.15, *Recreatio*n, for more information.

Programmatic Environmental Impact Statement for Solar Energy Development (Solar PEIS)

In response to direction from Congress under Title II, Section 211 of the Energy Policy Act of 2005, as well as Executive Order 13212, Actions to Expedite Energy-Related Projects, the BLM and the U.S. Department of Energy have prepared a Solar Programmatic EIS (PEIS) pursuant to NEPA and Council on Environmental Quality regulations. The Solar PEIS evaluates utility-scale solar energy development in a six-state area, including that portion of the CDCA that is open to solar energy development in accordance with the provisions of the CDCA Plan. Among other decisions, the Solar PEIS planning effort identified locations on BLM lands that are priority areas for solar energy development (referred to as Solar Energy Zones or SEZs). Portions of the proposed gen-tie line on BLM-managed lands are located in the Riverside East Solar Energy

Zone (SEZ). The Final Solar PEIS was released on July 24, 2012 and a Record of Decision was issued on October 12, 2012 (BLM, 2012).

Local

Land use and planning decisions within and adjacent to the Project area are guided and regulated by the Riverside County General Plan, PVVAP, City of Blythe General Plan, Riverside County Zoning Ordinance, and City of Blythe Zoning Ordinance. The relevant plans contain goals, policies, and implementation measures that provide an overall foundation for establishing land use patterns. This section lists relevant goals, objectives, policies, and implementation measures related to the proposed land use. The Riverside County and City of Blythe Zoning Ordinances contain regulations through which the applicable General Plan's provisions are implemented. The RCALUCP establishes procedures and criteria by which the County can address compatibility issues when making planning decisions concerning airports. The most relevant regulations pertaining to solar energy development are presented below.

Regional Comprehensive Plan and Regional Transportation Plan

Refer to Section 3.16, *Traffic and Transportation*.

Riverside County General Plan

The Riverside County General Plan (RCGP) was adopted on October 7, 2003. Through a series of resolutions, the Board of Supervisors adopted an update on December 8, 2015. The RCGP consists of a vision statement and the following elements: Land Use, Circulation, Multi-purpose Open Space, Safety, Noise, Housing, Air Quality, and Administration. The RCGP sets forth County land use policies and guidance for implementation. The RCGP is augmented by more detailed Area Plans covering the County's territory. Area Plans provide a clear and more focused opportunity to enhance community identity within the County and stimulate quality of life at the community level.

RCGP land use designations within the Project area include Agriculture (AG) and Estate Density Residential-Rural Community (EDR-RC). The Agriculture land use designation is established to help conserve productive agricultural lands within the County. These include row crops, nurseries, citrus groves and vineyards, dairies, ranches, poultry and hog farms, and other agriculture-related uses. Areas designated AG generally lacks infrastructure that is supportive of urban development. This land use designation allows one single-family residence per 10 acres except as otherwise specified by a policy or an overlay. The EDR land use designation allows single-family detached residences on large parcels of two to five acres. Limited agriculture and intensive equestrian and animal keeping uses are expected and encouraged. The RC designation is a foundation component in the RCGP that identifies communities that exhibit a rural character and allows limited development.

Policies at the General Plan and Area Plan levels implement the vision and goals of Riverside County. The County of Riverside Vision details the physical, environmental, and economic qualities that the County aspires to achieve by the year 2020. Using that Vision as the primary foundation, the RCGP establishes policies for development and conservation within the entire

unincorporated County territory (Riverside County, 2015). The General Plan's policy goals that are potentially relevant to land use for the Project are provided below. Additional County of Riverside General Plan policy goals are detailed in other sections of Chapter 3 of this EIR, as applicable to the environmental resource topic analyzed.

Land Use Element (LU)

Policy LU 2.1.c. The County shall provide a broad range of land uses, including a range of residential, commercial, business, industry, open space, recreation and public facility uses.

Policy LU 5.1. Ensure that development does not exceed the ability to adequately provide supporting infrastructure and services, such as libraries, recreational facilities, educational and day care centers, transportation systems, and fire/police/medical services.

Policy LU 7.1. Require land uses to develop in accordance with the Riverside County General Plan (RCGP) and area plans to ensure compatibility and minimize impacts.

Policy LU 7.2. Notwithstanding the Public Facilities designation, public facilities shall also be allowed in any other land use designation except for the Open Space- Conservation and Open Space- Conservation Habitat land use designations. For purposes of this policy, a public facility shall include all facilities operated by the federal government, the State of California, the County of Riverside, any special district governed by the County of Riverside or any city, and all facilities operated by any combination of these agencies.

Policy LU 8.1. The County shall accommodate the development of a balance of land uses that maintain and enhance the County's fiscal viability, economic diversity and environmental integrity (General Plan LU-26).

Policy LU 9.1. Provide for permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, watercourses including arroyos and canyons, and scenic and recreational values.

Policy LU 9.2. Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the RCGP and federal and state regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act.

Policy LU 10.1. Require that new development contribute their fair share to fund infrastructure and public facilities such as police and fire facilities.

Policy LU 14.1. The County shall preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public.

Policy LU 14.5. Require new or relocated electric or communication distribution lines, which would be visible from Designated and Eligible State and County Scenic Highways, to be placed underground.

Policy LU 17.1. Permit and encourage solar energy systems as an accessory use to any residential, commercial, industrial, mining, agricultural or public use.

Policy LU 17.2 Permit and encourage, in an environmentally and fiscally responsible manner, the development of renewable energy resources and related infrastructure, including but not limited to, the development of solar power plants in the County of Riverside.

Multi-Purpose Open Space Element (OS)

OS 11.1 Enforce the state Solar Shade Control Act, which promotes all feasible means of energy conservation and all feasible uses of alternative energy supply sources.

OS 11.2 Support and encourage voluntary efforts to provide active and passive solar access opportunities in new developments.

OS 11.3 Permit and encourage the use of passive solar devices and other state-of-the-art energy resources.

OS 11.4 Encourage site-planning and building design that maximizes solar energy use/potential in future development applications.

Palo Verde Valley Area Plan (PVVAP)

The Project is located on the Palo Verde Mesa in the Palo Verde Valley area within unincorporated Riverside County. The Project is within the planning area for the PVVAP. The PVVAP provides customized direction specifically for this easternmost reach of the County. The PVVAP guides the evolving character of the agricultural and desert area. The PVVAP focus is on the Colorado River and is anchored in the City of Blythe. The PVVAP planning area is bordered by Imperial County on the south, desert lands on the north and west, and the Colorado River on the east. The PVVAP is an extension of the RCGP and Vision.

Riverside County Land Use Ordinance

Ordinance No. 348.4705 amends Ordinance No. 348 to authorize solar power plants on lots ten acres or larger, subject to a conditional use permit in the following zone classifications: General Commercial (C-1/C-P), Commercial Tourist (C-T), Scenic Highway Commercial (C-P-S), Rural Commercial (C-R), Industrial Park (I-P), Manufacturing Servicing Commercial (M-SC), Medium Manufacturing (M-M), Heavy Manufacturing (M-H), Mineral Resources (M-R), Mineral Resource and Related Manufacturing (M-R-A), Light Agriculture (A-1), Light Agriculture with Poultry (A-P), Heavy Agriculture (A-2), Agriculture-Dairy (A-D), Controlled Development (W-2), Regulated Development Areas (R-D), Natural Assets (N-A), Waterways and Watercourses (W-1), and Wind Energy Resource Zone (W-E). Ordinance No. 348.4596 was last updated in 2010.

Portions of the proposed solar facility site would be located within unincorporated Riverside County and areas currently zoned[1] as Controlled Development Areas (W-2-10), Controlled Development Areas (W-2-5), Light Agriculture (A-1-10), and Heavy Agriculture (A-2-10).

City of Blythe General Plan and Zoning Ordinance

The City of Blythe General Plan 2025 (General Plan) was adopted in 2014 and includes the seven elements required by State law (Land Use, Housing, Circulation, Open Space, Conservation, Noise, and Safety) and other elements that address local concerns and regional requirements. The General Plan includes guiding policies and implementing policies. Together, the guiding and implementing policies articulate a vision for Blythe that the General Plan seeks to achieve.

The General Plan land use designations/zones within the solar facility include Agriculture (A) and Service Industrial (I-S). The Agriculture land use designation/zone allows for the continued cultivation of land and for associated uses commonly tied to agriculture including the grazing of animals. Residential units are allowed at a density of one per 20 acres. Agriculture associated commercial uses, feed lots (more than forty head), labor camps, and recreational activities are allowed with a conditional use permit.

For the Agriculture zone, the City of Blythe Zoning Code lists utility operations/distribution facilities among the uses permitted through obtaining a conditional use permit.

The I-S land use designation/zone is intended to provide areas appropriate for moderate- to low-intensity industrial uses capable of being located next to commercial and residential areas with minimum buffering. Allowable uses include light manufacturing, wholesaling, distribution, storage, retailing as an accessory use only, and offices in a landscaped setting. Small restaurants and convenience stores will be permitted as ancillary uses, subject to appropriate standards. No raw materials processing would be allowed. The maximum Floor Area Ratio is 0.4, but increases may be permitted, up to 0.8, for uses such as wholesale, distribution, and storage with low employment intensity.

The City of Blythe Zoning Code lists utility operations/distribution facilities among the permitted uses in the I-S zone. Utility operations facilities are defined as facilities involved in the operation of the various public and quasi-public utilities, such as telephone switchboard centers, electrical generating plants and terminals, sewage treatment plants, and water pumping stations or reservoirs.

City of Blythe's General Plan policies most relevant to land use for the proposed Project are provided below.

Land Use Element

Policy 23. As required by Public Utilities Section 21676(b), prior to City approval, appropriate pre-zoning, specific plan, planned unit development, individual development

[1] Refinements to the County Riverside's zoning is ongoing. The zoning in the Project area was updated in 2012; therefore, the zoning classifications listed in Ordinance No. 348.4596 do not match. However, the categories, such as Controlled Development, Light Agriculture, and Heavy Agriculture have not changed.

projects, or other actions involving land within the City Sphere of Influence and AIA designated "planned development" will be submitted to the ALUC for review.

Open Space and Conservation Element

Refer to Sections 3.2.1, *Aesthetics*; 3.2.2, *Agriculture and Forestry Resources*; and 3.2.6, *Geology and Soils*.

3.10.3 Methodology for Analysis

Evaluation of potential land use conflicts of the proposed Project was based on a review of relevant planning documents, including, but not limited to, the RCGP, Riverside County Zoning Ordinance, the RCALUCP, City of Blythe General Plan 2025, City of Blythe Zoning Code, the CDCA Plan, and a field review of the proposed solar facility site and surrounding area. The focus of the land use analysis is on land use conflicts that would result from implementation of the PVMSP. Land use conflicts are identified and evaluated based on existing or authorized land uses, land uses proposed as part of the Project, land use designations, and standards and policies related to land use. Land use compatibility is based on the intensity and patterns of land use to determine whether the Project would result in incompatible uses or nuisance issues. Potential land use conflicts or incompatibility (specifically during construction activities) are usually the result of other environmental effects, such as generation of noise or air quality issues resulting from grading activities. Land use conflicts that would result from the Project's construction, operation, maintenance, and decommissioning are evaluated in this section.

3.10.4 Applicable Best Management Practices

Land use and planning would not require the implementation of BMPs.

3.10.5 CEQA Significance Criteria

The criteria listed below were used to determine if the proposed Project would result in impacts to land use. These criteria were obtained from the CEQA Environmental Checklist, Appendix G of the 2012 CEQA Guidelines. Under CEQA, the PVMSP would have a significant impact on land use if it would:

- Physically divide an established community (see Effects Found Not to Be Significant);
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect (see Impact LU-1);
- Conflict with any applicable habitat conservation plan or natural community conservation plan (see Effects Found Not to Be Significant);

The following additional significance criteria from the County of Riverside Environmental Assessment Form are used in the analysis. A project could have potentially significant impacts if it would:

- Result in a substantial alteration of the present or planned land use of an area (see Impact LU-2);
- Affect land use within a city sphere of influence and/or within adjacent city or county boundaries (see Impact LU-3);
- Be inconsistent with the site's existing or proposed zoning (see Impact LU-4);
- Be incompatible with existing surrounding zoning (see Effects Found Not to Be Significant);
- Be incompatible with existing and planned surrounding land uses (see Impacts LU-1 through LU-4);
- Be inconsistent with the land use designations and policies of the General Plan (including those of any specific plan) (see Impact LU-1); or
- Disrupt or divide the physical arrangement of an established community (including a low-income or minority community) (see Effects Found Not to Be Significant).

Effects Found Not to Be Significant

The PVMSP would have no impact involving the following significance criteria:

- Physically divide an established community;

The proposed Project is located in a remote area with very few residences (six residences are within 1,000 feet and over 200 residences within one mile). The closest residential community is the Nicholls Warm Springs/Mesa Verde neighborhood. Due to the remote location of the proposed Project, the solar facility would not physically divide an established community, nor would the gen-tie line, access roads, and 34.5 kV distribution line. No impacts would occur.

- Conflict with any applicable habitat conservation plan or natural community conservation plan;

The Project would not be within the jurisdiction of any adopted habitat conservation plan or natural community conservation plan; therefore, no impacts would occur.

- Be incompatible with existing surrounding zoning;

The zoning surrounding the Project is similar to that of the Project area; therefore, the Project would be compatible with existing surrounding zoning. No impacts would occur.

- Disrupt or divide the physical arrangement of an established community (including a low-income or minority community).

The Project is located in a remote area of unincorporated Riverside County and would not disrupt or divide the physical arrangement of an established community. No impacts would occur.

3.10.6 Impact Analysis

Impact LU-1: The Project could conflict with applicable land use plans, policies, or regulations of agencies with jurisdiction over the Project adopted for the purpose of avoiding or mitigating an environmental effect. This impact would be *less than significant*.

The PVMSP would be subject to the RCGP, PVVAP, City of Blythe General Plan 2025, CDCA Plan, and NECO Plan. As summarized in **Table 3.10-2**, Conflicts with Regional/Local Land Use Plans, Policies, and Regulations, the Project would not conflict with applicable local land use plans, policies, or regulations. Please see each resource section of this EIR for a discussion of the plans and policies relevant to specific resource areas, and the Project's consistency with those plans and policies. A summary of how the Project would be consistent with these land use related plans and policies is provided below and summarized in Table 3.10-2, as applicable.

TABLE 3.10-2
CONSISTENCY WITH REGIONAL/LOCAL LAND USE PLANS, POLICIES, AND REGULATIONS

Policy/Regulations/Goals	Description	Consistency Analysis
Riverside County General Plan 2015		
Land Use Element Policy LU 2.1.c	Requires a broad range of land uses, including a range of residential, commercial, business, industry, open space, recreation and public facility uses (General Plan pg. LU-20).	**Consistent:** The Project would not narrow the range of land uses.
Land Use Element Policy LU 5.1	Requires development does not exceed the ability to adequately provide supporting infrastructure and services (General Plan LU-24).	**Consistent:** The Project would no create a permanent increase in population; therefore, existing infrastructure and services would be adequate. See Section 3.13, *Population and Housing*, for more information.
Land Use Element Policy LU 7.1	Require land uses to develop in accordance with the Riverside County General Plan (RCGP) and area plans to ensure compatibility and minimize impacts.	**Consistent:** With the approval of a CUP, the Project would be compatible with the RCGP and the PVVAP.
Land Use Element Policy LU 7.2	Public facilities shall also be allowed in any other land use designation except for the Open Space- Conservation and Open Space- Conservation Habitat land use designations. For purposes of this policy, a public facility shall include all facilities operated by the federal government, the State of California, the County of Riverside, any special district governed by the County of Riverside or any city, and all facilities operated by any combination of these agencies.	**Consistent:** The solar facility and gen-tie line would not preclude construction of public facilities in unoccupied areas of the solar facility site.
Land Use Element Policy LU 8.1	Accommodate the development of a balance of land uses that maintain and enhance the County's fiscal viability, economic diversity and environmental integrity (General Plan LU-26).	**Consistent:** The Project would allow the generation of renewable energy. Additionally, it would increase revenue for the County of Riverside.

TABLE 3.10-2
CONSISTENCY WITH REGIONAL/LOCAL LAND USE PLANS, POLICIES, AND REGULATIONS

Policy/Regulations/Goals	Description	Consistency Analysis
Land Use Element Policy LU 9.1	Provide for permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, watercourses including arroyos and canyons, and scenic and recreational values.	**Consistent:** The Project is not located in an area with natural resources or scenic and recreational values.
Land Use Element Policy LU 9.2	Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the RCGP and federal and state regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act.	**Consistent:** The Project would comply with NEPA and CEQA and all necessary compliance measures.
Land Use Element Policy LU 10.1	Require that new development contribute their fair share to fund infrastructure and public facilities such as police and fire facilities.	**Consistent:** The Project is not anticipated to cause additional impacts to public facilities. See Section 3.14, *Public Services and Utilities*, for further analysis.
Land Use Element Policy LU 14.1	Preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public (General Plan LU-31).	**Consistent:** The Project would be located on disturbed lands that are adjacent to existing electrical facilities. See Section 3.1, *Aesthetics*, of this EIR for more information.
Land Use Element Policy LU 14.5	Require new or relocated electric or communication distribution lines, which would be visible from Designated and Eligible State and County Scenic Highways, to be placed underground.	**Consistent:** The Project may have views from County-eligible scenic highway I-10, but the Project would be located within an area with existing electrical facilities.
Land Use Element Policy LU 17.1	Permit and encourage solar energy systems as an accessory use to any residential, commercial, industrial, mining, agricultural or public use.	**Consistent:** The Project would provide 450MW of renewable solar energy.
Land Use Element Policy LU 17.2	Permit and encourage, in an environmentally and fiscally responsible manner, the development of renewable energy resources and related infrastructure, including but not limited to, the development of solar power plants in the County of Riverside.	**Consistent:** The Project would provide 450MW of renewable solar energy.
Multi-Purpose Open Space Element Policy OS 11.1	Enforce the state Solar Shade Control Act, which promotes all feasible means of energy conservation and all feasible uses of alternative energy supply sources.	**Consistent:** The Project would provide an alternative energy supply source
Multi-Purpose Open Space Element Policy OS 11.2	Support and encourage voluntary efforts to provide active and passive solar access opportunities in new developments.	**Consistent:** The Project would provide 450MW of renewable solar energy.
Multi-Purpose Open Space Element Policy OS 11.3	Permit and encourage the use of passive solar devices and other state-of-the-art energy resources.	**Consistent:** The Project would provide 450MW of renewable solar energy.
Multi-Purpose Open Space Element Policy OS 11.4	Encourage site-planning and building design that maximizes solar energy use/potential in future development applications.	**Consistent:** The Project would provide 450MW of renewable solar energy.

TABLE 3.10-2
CONSISTENCY WITH REGIONAL/LOCAL LAND USE PLANS, POLICIES, AND REGULATIONS

Policy/Regulations/Goals	Description	Consistency Analysis
Palo Verde Valley Area Plan 2015		
Agricultural Preservation Policy PVVAP 4.1	Protects farmland and agricultural resources in the Palo Verde Valley through adherence to the Agriculture sections of the RCGP Multipurpose Open Space and Land Use Elements.	**Consistent:** The Project would impact Farmland and agricultural resources in the Palo Verde Valley (as defined by the PVVAP), but would not preclude the County from achieving its area-wide goal to encourage and protect agricultural uses throughout the Palo Verde Valley area. See Section, 3.2*, Agriculture and Forestry Resources*, for more information.
Recreational Vehicle Development Policy PVVAP 5.4	Allows remote recreational vehicle developments within the following land use designations: Very Low Density Residential, Estate Density Residential, Rural Residential, Rural Mountainous, Rural Desert, Open Space-Recreation, and Open Space-Rural.	**Consistent:** The Project would not close open recreational vehicle routes of travel nor would the project preclude recreational vehicle developments in these land use designations.
Trials and Bikeway System Policy PVVAP 9.1	Develops a system of multi-purpose trails that enhances the Colorado River's recreational values and connects with the adopted trails system of Riverside County.	**Consistent:** The Project would not close or remove trails, nor would it impact trails near the Colorado River. See Section 3.15, *Recreation*, for more information.
Scenic Highways Policy PVVAP 10.1	Protects the scenic highways in the Palo Verde Valley planning area from change that would diminish the aesthetic value of adjacent properties in accordance with the Scenic Corridors sections of the RCGP Land Use, Multipurpose Open Space, and Circulation Elements.	**Consistent:** The Project may have views from County-eligible scenic highway I-10, but the Project would be located within an area with existing electrical facilities. See Section 3.1, *Aesthetics*, for more information.
Scenic Highways Policy PVVAP 10.2	Encourages the designation of I-10 and U.S. Highway 95 as eligible and subsequently Official Scenic Highways in accordance with the California State Scenic Highway Program.	**Consistent:** The Project may have views from County-eligible scenic highway I-10; however, the Project would not impacts these views. See Section 3.1, *Aesthetics*, for more information.
Riverside County Zoning Ordinance (Ordinance 348)		
Section 15.1.d. (32) Uses Permitted in W-2 Zone (Controlled Development Areas)	This zone permits a solar power plant on lot 10 acres or larger upon issuance of a CUP.	**Consistent:** With approval of a CUP, the Project would be an allowable use under this zone.
Section 13.1.c. (12) Uses Permitted in A-1 Zone (Light Agriculture)	This zone permits a solar power plant on a lot 10 acres or larger upon issuance of a CUP.	**Consistent:** With approval of a CUP, the Project would be an allowable use under this zone.
City of Blythe General Plan 2025/City of Blythe Zoning Code		
Open Space Guiding Policy 1	Maintain hillsides and viable agricultural lands as open space for resource conservation and preservation of views.	**Consistent:** The Project's gen-tie line would impact viable agricultural lands on the Palo Verde Mesa, but would not interfere substantially with the City's goal of preserving hillside and viable agricultural lands city-wide.

TABLE 3.10-2
CONSISTENCY WITH REGIONAL/LOCAL LAND USE PLANS, POLICIES, AND REGULATIONS

Policy/Regulations/Goals	Description	Consistency Analysis
Open Space Guiding Policy 9	Promote continued agricultural use of important farmland outside the urban area.	**Consistent:** The Project's gen-tie line would impact Important Farmland on the Palo Verde Mesa. While the City, if it approved this Project, would be favoring environmentally friendly power generation over retention of on-site agricultural uses, approval of the Project would not preclude the City from continuing to support agricultural uses city-wide.
Agriculture (A)	This zone permits, upon issuance of a CUP, "utility operations/distribution facilities."	**Consistent:** With approval of a CUP, the Project's gen-tie line would be an allowable use under this zone.
Service Industrial (I-S)	This zone permits "utility operations/distribution facilities."	**Consistent:** The Project's gen-tie line would be an allowable use under this zone.

SOURCES: Riverside County General Plan 2015; Palo Verde Valley Area Plan 2015; Riverside County Zoning Ordinance (Ordinance 348); City of Blythe General Plan 2025/Blythe Zoning Code

Riverside County General Plan

The PVMSP would be a conditionally permitted use within the Agriculture (AG), Estate Density Residential-Rural Community (EDR-RC), and Open Space Rural (OS-RUR) use designations with approval of a CUP and completion of an environmental review.

In addition, a Public Use Permit (PUP) would be obtained through the Land Use Application process with the Riverside County Planning Department. A PUP is required for the portions of the proposed gen-tie line that would traverse County Roads (Buck Boulevard and Hobson Way).

Palo Verde Valley Area Plan and Riverside County Zoning Ordinance

The proposed Project would be a conditionally permitted use under the W-2-10 (solar facility and gen-tie line), W-2-5 (gen-tie line), and A-1-10 (solar facility and gen-tie line) zones as described in the PVVAP. No conflicts with the Riverside County Zoning Ordinance would occur.

City of Blythe General Plan 2025

A portion of the gen-tie line would be in the City of Blythe and would be subject to the goals and policies of the City of Blythe General Plan 2025. The proposed Project would be a permitted use within the Service Industrial land use designation and a conditionally permitted use within the Agriculture land use designations with approval of a CUP and completion of an environmental review.

City of Blythe Zoning Code

The gen-tie line associated with the proposed Project would be a permitted use within the Service Industrial zone and a conditionally permitted use under the Agriculture zone. No conflicts with the City of Blythe Zoning code would occur.

Riverside County Airport Land Use Compatibility Plan (RCALUCP) and Federal Aviation Administration

In October 2012, the Riverside County ALUC found the Project to be consistent with the Airport Land Use Plan. Since the proposed Project is within the Blythe Municipal Airport's Airport Influence Area (AIA), it is required to adhere to FAA Part 77 review. Part 77 FAA review includes a review of projects for the potential for incompatible land uses that are proposed within the area of influence. Incompatible land uses can include wastewater ponds, municipal flood control channels and drainage basins, sanitary landfills, solid waste transfer stations, electrical power substations, water storage tanks, golf courses, and other bird attractants. Incompatible land uses can be denied or require modifications See Section 3.8, *Hazards and Hazardous Materials,* for more information. See also Section 3.4, *Biological Resources*, for discussion of impacts to birds.

Federal Land Policy and Management Act, 1976

Construction, operation, maintenance, and decommissioning of the proposed gen-tie line on federal land would be consistent with the FLPMA (43 USC 1701 et seq.), which encourages use of existing ROW when practical (Section 1763). The gen-tie line proposed under the Project would be consistent with this provision because it would be within a designated utility corridor on federal land. The solar facility and remaining portions of the gen-tie would be on privately owned land and therefore not subject to the FLPMA. The gen-tie line would be consistent with the FLPMA.

California Desert Conservation Area (CDCA) Plan, 1980 as Amended

The proposed gen-tie line is included in the "Land Use Activities" category of Transmission Lines as identified in Table 1, Multiple-Use Class Guidelines, of the CDCA Plan. As noted in Table 1, under Multiple-Use Classes L, M, and I, "[n]ew…electric transmission facilities…may be allowed only within designated corridors" (BLM, 1980). The gen-tie line would be located within Multiple-Use Class M and would extend through Corridor K. Because the proposed gen-tie line would be allowed within Corridor K, a Plan Amendment is not needed. The construction, operation, maintenance, and decommissioning of the gen-tie line would be consistent with the CDCA Plan.

Northern and Eastern Colorado Desert (NECO) Coordinated Management Plan

The gen-tie line would be constructed within Utility Corridor K. Construction activities would comply with the NECO Plan. As summarized in Table 3.10-2 above, the Project would not conflict with applicable local land use plans, policies, or regulations. With approval of a CUP, the Project would be a permitted use on private land. The gen-tie line structures proposed on BLM land would be located within Utility Corridor K and therefore consistent with the CDCA Plan and

NECO Plan. Therefore, impacts to existing plans, policies, and regulations would be considered less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact LU-2: The Project could result in a substantial alteration of the present or planned land use of an area. This impact would be *less than significant.*

As discussed under Impact LU-1, the Project would be located on private lands and would be consistent with the RCGP and the PVVAP with issuance of a CUP, and consistent with the City of Blythe General Plan 2025. In addition, the gen-tie line located within BLM-managed lands would be located within a portion of the Riverside East SEZ and a designated utility corridor. Therefore, construction of the gen-tie line would be consistent with the CDCA Plan and NECO Plan. Based on the information and discussion provided above, the Project would be consistent with present and planned land use of the area and impacts would be less than significant.

Mitigation Measures

No mitigation measures are recommended.

Significance after Mitigation

This impact would be less than significant

Impact LU-3: The Project could affect land use within a city sphere of influence and/or within adjacent city or county boundaries. This impact would be *less than significant.*

A portion of the Project's gen-tie line would be located within the City of Blythe sphere of influence. As discussed in Impact LU-1, the Project would be consistent with the City of Blythe General Plan with issuance of a use permit. Therefore, impacts would be less than significant to the City's sphere of influence.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact LU-4: The Project is consistent with the site's existing or proposed zoning. This impact would be *less than significant.*

As described in Impact LU-2 and **Table 3.10-2** above, the solar facility and portions of the gen-tie line on private lands would be consistent with existing zoning for the RCGP and PVVAP, since the use is allowed with a CUP. The gen-tie line would be located on land under the

management of the BLM would be consistent with the CDCA Plan and NECO Plan. The Project would not require a zone change or general plan amendment; therefore, the Project would be consistent with the site's existing zoning. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

3.10.7 Cumulative Impacts

Impacts resulting from construction, operation, maintenance, and decommissioning of the Project could result in a cumulative effect on land use with other past, present, or reasonably foreseeable future actions. Cumulative impacts to agriculture are addressed in Section3.2, *Agriculture and Forestry Resources*. The geographic scope of the cumulative effects analysis for land use consists of eastern Riverside County. This is based on the jurisdictional boundaries within which the impacts of land use decisions of the PVMSP and other projects described in Table 4.2-1 could be additive or synergistic.

The timeframe refers to the duration over which impacts associated with land use and special designations would occur: short-term or long-term. Short-term impacts to land use and special designations would occur during the construction and decommissioning period. Long-term impacts associated with land use and special designations would occur as a result of developing a solar facility in the Project area and the resulting change in land use to accommodate the Project over its operational life (approximately 30 years).

Past development has increased human use of land in the geographic scope. However, because of the limited availability of water, human development in the geographic scope development has been limited to small scattered communities and cities among large tracts of undeveloped land. Past and present projects occurring in the vicinity of the PVMSP site on private lands primarily include agricultural operations. Overall, the geographic scope consists of undeveloped land used for agriculture, open space land, and desert. In addition, a large number of renewable projects (solar) have been proposed on both BLM-administered land and private land (see Table 3-2). These projects comprise thousands of acres that could conflict with existing zoning, land use designations or land use plans and polices applicable to the area, which would be considered a cumulatively significant impact to land use.

The anticipated impacts of the Project in conjunction with cumulative development in the area of the Project could change the existing zoning, land uses and increase urbanization, resulting in the loss of open space, which the General Plan strives to preserve. Potential land use impacts require evaluation on a case-by-case basis because of the interactive effects of a specific development and its surrounding land use environment. As described in **Table 3.10-2**, the Project would not divide a community and would be consistent with the goals and policies of the RCGP, and other applicable local land use plans, policies, and regulations. In addition, with approval of all discretionary requests, the Project would be an allowable use that would not conflict with the land

use or zoning classifications for the site. Therefore, Project's incremental contribution to impacts to land use would not be cumulatively considerable.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

Cumulative impacts would be less than significant.

3.10.8 Mitigation Measures

No mitigation measures are required.

3.11 Noise

This section describes the environmental setting and regulatory framework in regards to noise for the proposed Project. It also describes the impact analysis relating to potential noise and vibration impacts from the construction, operation, maintenance, and decommissioning of the PVMSP and mitigation measures that would reduce or avoid adverse noise impacts. The assessment presented in this section is based on the Palo Verde Mesa Solar Project Noise Study prepared in May 2013 by POWER Engineers. A full copy of the report is provided in Appendix H.

Noise can be defined as unwanted sound. Human response to noise is most commonly expressed as an annoyance, and the level of annoyance may be affected by the amplitude (intensity or energy content) of the noise, its frequency (pitch), its duration of exposure, and/or its recurrence. Environmental noise is measured in decibels (dB). The A-weighted decibel scale (dBA) is used to approximate the range of sensitivity of the human ear to sounds of different frequencies. A noise level is a measure of noise at a given instance in time. A change in level of at least 5-dBA is noticeable to most people, and a 10-dBA increase is judged by most people as a doubling of the sound level. Typical noise sources and noise environments for common indoor and outdoor activities are listed in **Table 3.11-1**. The decibel scale is based on logarithms, and two noise sources do not combine in a simple additive fashion; rather, they combine logarithmically. For example, if two identical noise sources produced noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

TABLE 3.11-1
TYPICAL NOISE SOURCES AND NOISE ENVIRONMENTS

Common Outdoor Activities	Noise Levels (dBA)	Common Indoor Activities
Jet Fly-over at 1,000 feet	110-120	Rock Band
Gas Lawn Mower at 3 feet	90-100	n/a
Diesel Truck at 50 feet, at 50 mph	80-90	Food Blender at 3 feet
Commercial Area, Gas Lawn Mover at 100 feet	70	Vacuum Cleaner at 10 feet
Heavy Traffic at 300 feet	60	Normal Speech at 3 feet
Quiet Urban Area (daytime)	40-50	Large Business Office
Quiet Urban Area/Suburban Nighttime	30-50	Theater, large Conference Room (background)
Quiet Rural Nighttime	20-30	Library, Bedroom at Night, Concert Hall (background)
n/a	20-10	Broadcast/Recording Studio

mph = miles per hour
n/a = not available

SOURCE: Caltrans 2009

3.11.1 Environmental Setting

The primary noise sources in the Project area and surrounding the Project area are traffic from I-10 and nearby roadways; airplane noise from the Blythe Airport; noise generated from the

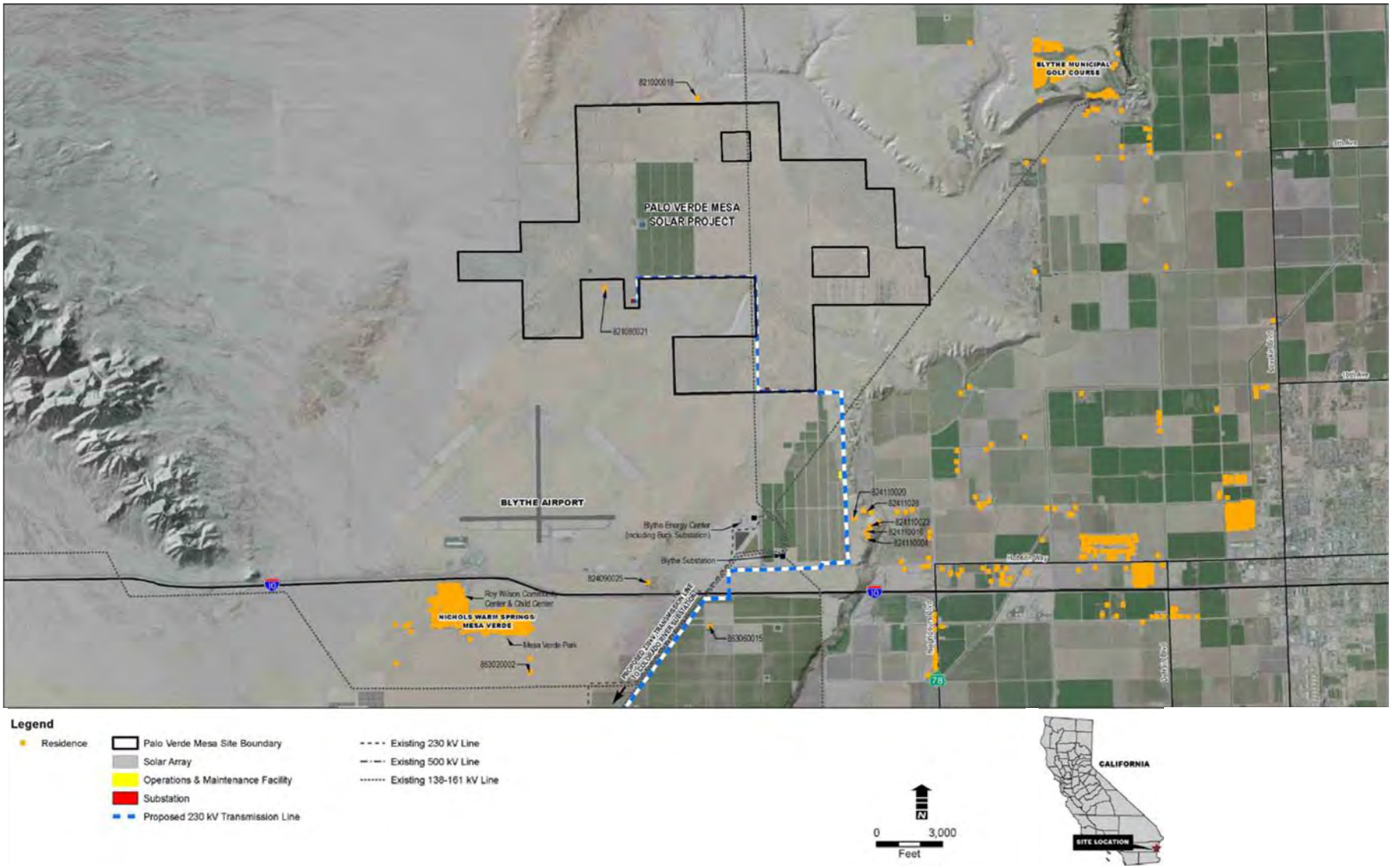
Blythe Energy Center; sounds from agricultural operations; sounds emanating from neighborhoods (e.g., voices, radio and television broadcasts); and naturally occurring sounds (e.g., winds, wind-generated noises). Generally, intermittent, short-term noises, such as these do not significantly contribute to longer-term noise averages.

I-10 is a major transportation artery and the primary noise source in the area. Noise measurements within 300 feet of I-10 range from 65 dBA to levels exceeding 83 dBA caused by the passage of heavy trucks (Blythe, 2007). During peak use periods, traffic noise levels can range from 80 to 90 dBA at 50 feet from the shoulder of the interstate. State Route 78 experiences lower traffic volumes and vehicle speeds, and therefore likely has somewhat lower associated noise levels (BLM, 2005). Agricultural activities are conducted on land within the proposed Project boundary. Noise associated with farming activities includes that generated by heavy equipment used for cultivation and harvesting. Maximum noise levels associated with farm equipment typically range from 75 to 85 dBA at a distance of 50 feet. Noise impact contours for the Blythe Airport range from 65 CNEL (see discussion under the Noise Exposure and Community Noise section on page 3.11-4 for definition of CNEL), to 60 CNEL, to 55 CNEL. The most stringent noise contour boundary (55 CNEL) is approximately 1,000 feet from the runways (RCALUCP, 2004).

Ambient noise measurements were not conducted for the proposed Project because information could be extrapolated from noise measurements that were previously taken for the Blythe Energy Center Project which is located approximately 0.5 mile from the proposed Project. With the Blythe Energy Center in operation, the lowest average background noise level measured at 16531 West Hobson Way (APN 824-090-025) over any four-hour period was 47 dBA (L_{90}) (CEC, 2005). L_{90} is generally taken as the background noise level. The noise level is primarily influenced by highway traffic. Other background noise contributions were attributed to airplane overflights associated with the Blythe Airport. The average ambient noise level on the northern boundary of the Blythe Energy Center was 44 dBA L_{eq} (CEC, 1999). The lower noise level is a result of the property being farther away from I-10.

Noise-Sensitive Receptors

In general, residences, schools, hotels, hospitals, and nursing homes are considered to be the most sensitive to noise. Places such as churches, libraries, and cemeteries are also sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive. There are 223 residences within one mile of the solar facility. **Figure 3.11-1** illustrates nine individual residences located within 0.25 mile (approximately 1,320 feet) of the proposed Project, and **Table 3.11-2** lists the parcel numbers and distances of those residences from the Project components. The closest residence (APN 821-020-018) is approximately 230 feet away from the solar facility boundary. The closest residence to the gen-tie line is approximately 390 feet away. The solar facility is approximately 0.6 mile from Palo Verde College and 1.5 miles from the Blythe Municipal Golf Course. The gen-tie line would be located approximately 0.4 mile (2,220 feet) from the Mesa Verde Park and approximately 0.8 mile (4,400 feet) from the Roy Wilson Community and Child Center. No hospitals or convalescent homes are located within one mile of the proposed Project.



SOURCE: POWER Engineers

Figure 3.11-1

Residences within Three Miles of Proposed Project

TABLE 3.11-2
PARCEL NUMBERS FOR RESIDENCES WITHIN 0.25 MILE OF THE PROJECT COMPONENTS

Parcel Number	Distance
821-020-018	230 feet from the solar array
824-110-020	390 feet from the gen-tie line
821-080-021	420 feet from the solar array
824-110-028	825 feet and 1,150 feet from the gen-tie line (two residences)
824-110-016	925 feet from the gen-tie line
863-060-015	900 feet from the gen-tie line
824-110-004	990 feet from the gen-tie line
824-110-023	1,080 feet from the gen-tie line

SOURCE: POWER

Noise Exposure and Community Noise

Community noise is primarily the product of many distant noise sources, which change gradually throughout a typical day. During the nighttime, exterior background noises are generally lower than the daytime levels. Most household noise also decreases at night and exterior noise becomes more noticeable. Further, most people sleep at night and are more sensitive to noise intrusion during evening and nighttime hours. To account for human sensitivity to noise levels at differing times of day, the Community Noise Equivalent Level (CNEL) was developed. CNEL is a noise index that accounts for the greater annoyance of noise during the evening and nighttime hours. CNEL values are calculated by averaging hourly L_{eq} (equivalent continuous noise level) sound levels for a 24-hour period, and apply a weighting factor to evening and nighttime L_{eq} values. To account for the fluctuation in noise levels over time, noise impacts are commonly evaluated using time-averaged noise levels. The weighting factor, which reflects increased sensitivity to noise during evening and nighttime hours, is added to each hourly L_{eq} sound level before the 24-hour CNEL is calculated. For the purposes of assessing noise, the 24-hour day is divided into three time periods with the following weighting:

- Daytime: 7 a.m. to 7 p.m., weighting factor of 0 dB
- Evening: 7 p.m. to 10 p.m., weighting factor of 5 dB
- Nighttime: 10 p.m. to 7 a.m., weighting factor of 10 dB

Surrounding land uses dictate what noise levels would be considered acceptable or unacceptable. Rural and suburban areas generally have lower noise levels (approximately 20 to 50 dBA) than commercial or industrial zones (approximately 70 dBA). Levels around 75 dBA are more common around busy urban areas, and levels up to 85 dBA occur near major freeways and airports. In areas with human occupants, noise levels above 45 dBA during nighttime hours may disrupt sleep and therefore may be considered adverse. At 70 dBA, sleep interference effects become considerable (EPA, 1974).

Noise Attenuation

Sound level naturally decreases as one moves farther away from the source. The ground surface (reflective or absorptive) is also a factor in the sound levels. "Point" sources of noise, such as stationary mobile equipment or on-site construction equipment, attenuate (lessen) at a rate of 6.0 dBA per doubling of distance from the source when in an area with a reflective ground surface (e.g., parking lots). In areas where the ground is absorptive (e.g., soft dirt, grass, or scattered bushes and trees), noise attenuation from a point source is 7.5 dBA for each doubling of distance due to ground absorption (Caltrans, 1998).

Widely distributed noises, such as a street with moving vehicles (a "line" source), typically would attenuate at a lower rate of approximately 3.0 dBA for each doubling of distance between the source and the receiver. If the ground surface between source and receiver is absorptive, the excess ground attenuation rate would be 4.5 dBA for each doubling of distance (Caltrans, 1998).

Noise from large construction sites would have characteristics of both "point" and "line" sources, so attenuation would generally range between 4.5 and 7.5 dBA per doubling of distance. Noise attenuation rates for both line and point sources of noise may also be influenced by atmospheric effects, such as wind and temperature gradients. Trees and vegetation, buildings, and barriers reduce the noise level that would otherwise occur at a given receptor distance.

Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as a maximum instantaneous peak of the vibration signal and is typically expressed in units of inches per second (in/sec). The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration.

3.11.2 Regulatory Framework

Federal

Occupational Safety and Health Act

The Occupational Safety and Health Act of 1970 (OSHA) set onsite occupational noise exposure levels, which are regulated in California via the California Occupational Safety and Health Administration (Cal/OSHA). The maximum time-weighted average noise exposure level of workers is 90 dBA over an eight-hour work shift (29 CFR Section 1910.95).

State

California Occupational Safety and Health Administration

The California Department of Industrial Relations, Division of Occupational Safety and Health, enforces Cal/OSHA regulations, which are the same as the federal OSHA regulations described above. The regulations are contained in Title 8 of the CCR, General Industrial Safety Orders, Article 105, Control of Noise Exposure, Section 5095.

California Vehicle Code

The California Vehicle Code, Sections 23130 and 23130.5, limits highway vehicle noise and is enforced by the California Highway Patrol and the County Sheriff's Office.

California State Planning Law

The State of California requires local jurisdictions (via California Government Code Section 65302(f)) to develop general plans that include "Noise Elements." A key component of determining land use compatibility is defining appropriate noise thresholds and where such standards apply. "Noise-sensitive" land use classifications in the state of California include residential areas, schools, convalescent and acute care hospitals, parks and recreational areas, and churches. For exterior living areas, such as yards and patios, the noise threshold guideline for new residential land uses is 55 dBA CNEL and must not exceed 65 dBA CNEL.

Local

Riverside County General Plan

The Riverside County General Plan's Noise Element includes noise compatibility guidance. The Land Use Compatibility for Community Noise Exposure, included in the noise element, indicates that residential low density, single family, duplex, and mobile homes are normally acceptable up to 60 dBA L_{dn} or CNEL.

Riverside County's Ordinance No. 847 addresses noise. Ordinance No. 847 states: "This ordinance is not intended to establish thresholds of significance for the purpose of any analysis required by the California Environmental Quality Act and no such thresholds are hereby established." Accordingly, noise in excess of the standards set in Ordinance 847 does not necessarily create a significant impact. Section 4 of Ordinance 847, lists maximum nighttime and daytime sound levels for occupied property by General Plan land use designation (Riverside County, 2011). The most restrictive limit would apply to the nearest occupied receptors, which are classified as Rural Residential. The ordinance indicates the maximum decibel level allowed in Rural Residential is a daytime and nighttime limit of 45 dBA L_{max} (maximum sound level) when measured at the exterior of an occupied property. Section 2 of Ordinance No. 847 does, however, exempt from its provisions the following construction activities:

- Private construction projects located one-quarter of a mile or more from an inhabited dwelling; or
- private construction projects located within one-quarter of a mile from an inhabited dwelling, provided that: 1) Construction does not occur between the hours of 6 p.m. and 6

a.m. during the months of June through September; and 1) Construction does not occur between the hours of 6 p.m. and 7 a.m. during the months of October through May.

The Riverside County General Plan includes policies that address noise within the County boundaries. The policies that would be applicable to the proposed Project are included below.

Noise Element

Policy N 1.4. Determine if existing land uses will present noise compatibility issues with proposed projects by undertaking site surveys.

Policy N 1.5. Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.

Policy N 1.6. Minimize noise spillover or encroachment from commercial and industrial land uses into adjoining residential neighborhoods or noise-sensitive uses.

Policy N 2.2. Require a qualified acoustical specialist to prepare acoustical studies for proposed noise-sensitive projects within noise impacted areas to mitigate existing noise.

Policy N 3.2. Require acoustical studies and subsequent approval by the Planning Department and the Office of Industrial Hygiene, to help determine effective noise mitigation strategies in noise-producing areas.

Policy N 3.3. Ensure compatibility between industrial development and adjacent land uses. To achieve compatibility, industrial development projects may be required to include noise mitigation measures to avoid or minimize project impacts on adjacent uses.

Policy N 3.5. Require that a noise analysis be conducted by an acoustical specialist for all proposed projects that are noise producers. Include recommendations for design mitigation if the project is to be located either within proximity of a noise-sensitive land use, or land designated for noise sensitive land uses.

Policy N 3.6. Discourage projects that are incapable of successfully mitigating excessive noise.

Policy N 3.7. Encourage noise-tolerant land uses such as commercial or industrial, to locate in areas already committed to land uses that are noise-producing.

Policy N 7.1. New land use development within Airport Influence Areas shall comply with airport land use noise compatibility criteria contained in the corresponding airport land use compatibility plan for the area. Each Area Plan affected by a public-use airport includes one or more Airport Influence Areas, one for each airport. The applicable noise compatibility criteria are fully set forth in General Plan Appendix L and summarized in the Policy Area section of the affected Area Plan.

Policy N 7.4. Check each development proposal to determine if it is located within an airport noise impact area as depicted in the applicable Area Plan's Policy Area section regarding Airport Influence Areas. Development proposals within a noise impact area shall comply with applicable airport land use noise compatibility criteria.

Policy N 12.1. Utilize natural barriers such as hills, berms, boulders, and dense vegetation to assist in noise reduction.

Policy N 12.2. Utilize dense landscaping to effectively reduce noise. However, when there is a long initial period where the immaturity of new landscaping makes this approach only marginally effective, utilize a large number of highly dense species planted in a fairly mature state, at close intervals, in conjunction with earthen berms, setbacks, or block walls.

Policy N 13.1. Minimize the impacts of construction noise on adjacent uses within acceptable practices.

Policy N 13.2. Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.

Land Use Element (LU)

Policy LU 7.1: Require land uses to develop in accordance with the General Plan and area plans to ensure compatibility and minimize impacts. (AI 1, 3)

Policy LU 7.4. Retain and enhance the integrity of existing residential, employment, agricultural, and open space areas by protecting them from encroachment of land uses that would result in impacts from noise, noxious fumes, glare, shadowing, and traffic.

Riverside County Airport Land Use Commission New Compatibility Plan

Noise policies related to the Riverside County Airport Land Use Commission's New Compatibility Plan are provided below.

Policy 3.1.4. Nonresidential Development: The compatibility of nonresidential development shall be assessed primarily with respect to its usage intensity (the number of people per acre) and the noise-sensitivity of the use. Additional criteria listed in Table 2A shall also apply.

(a) The total number of people permitted on a project site at any time, except for rare special events, must not exceed the indicated usage intensity times the gross acreage of the site.

(1) Usage intensity calculations shall include all people (e.g., employees, customers/ visitors, etc.) who may be on the property at any single point in time, whether indoors or outside.

(2) Rare special events are ones (such as an air show at an airport) for which a facility is not designed and normally not used and for which extra safety precautions can be taken as appropriate.

(b) No single acre of a project site shall exceed the number of people per acre indicated in Policy 4.2.5(b) and listed in Table 2A unless special risk reduction building design measures are taken as described in Policy 4.2.6.

(c) The noise exposure limitations cited in Policy 4.1.4 and listed in Table 2B shall be the basis for assessing the acceptability of proposed nonresidential land uses relative to noise impacts. The ability of buildings to satisfy the interior noise level criteria noted in Policy 4.1.6 shall also be considered.

Policy 3.1.6. Other Development Conditions: All types of proposed development shall be required to meet the additional conditions listed in Table 2A for the respective compatibility zone where the development is to be located. Among these conditions are the following:

(a) Navigation Easement Dedication: See Policy 4.3.5.

(b) Deed Notice: See Policy 4.4.3.

(c) Real Estate Disclosure: See Policy 4.4.2.

(d) Noise Level Reduction: See Policy 4.1.6.

(e) Airspace Review: See Policy 4.3.3.

Policy 4.1.1. Policy Objective: The purpose of noise compatibility policies is to avoid establishment of noise-sensitive land uses in the portions of airport environs that are exposed to significant levels of aircraft noise.

Policy 4.1.2. Noise Contours: The evaluation of airport/land use noise compatibility shall consider both the current and future Community Noise Equivalent Level (CNEL) contours of each airport as depicted in Chapter 3 of this Plan.

(a) At most airports in the county, anticipated growth in aircraft operations results in projected future noise contours being larger than current ones. However, in some instances, factors such as introduction of a quieter aircraft fleet mix, planned changes to the configuration of airport runways, or expected modifications to flight procedures can result in current contours being larger than the future contours in some or all of the airport environs. In these cases, a composite of the contours for the two time frames shall be considered in compatibility analyses.

(b) For airport at which aircraft activity has substantial seasonal or weekly characteristics, noise contours associated with the peak operating season or days of the week shall be taken into account in assessing land use compatibility.

(c) Projected noise contours included in Chapter 3 are calculated based upon forecasted aircraft activity as indicated in an airport master plan or that is considered by the Riverside County Airport Land Use Commission to be plausible (refer to activity data in the Background Data volumes). The Airport Land Use Commission or the entities that operate airports in Riverside County should periodically review these projected noise level contours and update them if appropriate.

Policy 4.1.3. Application of Noise Contours: The locations of CNEL contours are among the factors used to define compatibility zone boundaries and criteria. Because of the inherent variability of flight paths and other factors that influence noise emissions, the depicted contour boundaries are not absolute determinants of the compatibility or incompatibility of a given land use on a specific site or a portion thereof. Noise contours can only quantify noise impacts in a general manner. Except on large parcels or blocks of land (sites large enough to have 3 dB or more of variation in CNELs), they should not be used as site design criteria. (Note, though, that the airport noise contours set forth in this Plan are to be used as the basis for determining compliance with interior noise level criteria as listed in Policy 4.1.6.)

Policy 4.1.4. Noise Exposure in Residential Areas: Unless otherwise indicated in the airport-specific policies listed in Chapter 3, the maximum CNEL considered normally acceptable for new residential land uses in the vicinity of the airports covered by this Plan is 60 dB for all airports except low-activity outlying airports (Chiriaco Summit and Desert Center) for which the criterion is 55 dB. These standards shall be based upon noise contours calculated as described above.

Policy 4.1.5. Noise Exposure for Other Land Uses: Noise level compatibility standards for other types of land uses shall be applied in the same manner as the above residential noise level criteria. The extent of outdoor activity associated with a particular land use is an important factor to be considered in evaluating its compatibility with airport noise. Examples of acceptable noise levels for other land uses in an airport's vicinity are presented in Table 2B.

Policy 4.1.6. Interior Noise Levels: Land uses for which interior activities may be easily disrupted by noise shall be required to comply with the following interior noise level criteria.

(a) The maximum, aircraft-related, interior noise level that shall be considered acceptable for land uses near airports is 45 dB CNEL in:

- Any habitable room of single- or multi-family residences;
- Hotels and motels;
- Hospitals and nursing homes;
- Churches, meeting halls, theaters, and mortuaries;
- Office buildings; and
- Schools, libraries, and museums.

(b) The noise contours depicted in Chapter 3 of this Plan shall be used in calculating compliance with these criteria. The calculations should assume that windows are closed.

(c) When reviewed as part of a general plan or zoning ordinance amendment or as a major land use action, evidence that proposed structures will be designed to comply with the above criteria shall be submitted to the ALUC under the following circumstances:

(1) Any mobile home situated within an airport's 55-dB CNEL contour. [A typical mobile home has an average exterior-to-interior noise level reduction (NLR) of approximately 15 dB with windows closed.]

City of Blythe General Plan 2025

City policies in the City of Blythe General Plan 2025 (2015) related to noise are located in the Noise Element Guiding Policies of the City General Plan, and include:

Noise Element

Policy 1 (Noise): Protect the citizens of the City of Blythe from the harmful effects of exposure to excessive noise.

Policy S 1. Areas shall be recognized as noise impacted if exposed to existing or projected future noise levels at the property line which exceed 65 L_{dn} (or CNEL).

Policy S 2. Noise sensitive land uses should be discouraged in noise impacted areas unless effective mitigation measures are incorporated into the specific design of such projects to reduce exterior noise levels to 65 dB L_{dn} (or CNEL) or less and 45 dB L_{dn} (or CNEL) or less within interior living spaces. Areas shall be designated as noise-impacted if exposed to existing or projected future noise levels at the exterior of buildings which exceed 60 dB L_{dn} (or CNEL).

Policy S3. New industrial, commercial or other noise generating land uses (including roadways, railroads, and airports) should be discouraged if resulting noise levels will exceed 65 dB L_{dn} (or CNEL) at the boundary areas of planned or zoned noise sensitive land uses.

Policy S7: The City shall review all relevant development plans, programs and proposals to ensure their conformance with the policy framework outlined in this Noise Element.

Policy S9:. Development on the Blythe Municipal Airport shall conform to the Blythe Airport Master Plan to minimize the impact of airport operation on noise sensitive land uses.

Policy S10: Proposed land uses within the Airport Influence Area shall be reviewed for consistency with the Noise Compatibility Criteria set forth in General Plan Table 8.2-2, with General Plan Figure 8-5 Ultimate Noise Impacts used as a review guide.

Policy 1 (Land Use Compatibility): Areas within the City of Blythe shall be designated as noise impacted if exposed to existing or projected future noise levels at the exterior of buildings which exceed 60 dB L_{dn} (or CNEL).

3.11.3 Methodology for Analysis

Noise and vibration impacts associated with the PVMSP would be created by short-term construction activities and by normal long-term operation of the solar facility, including noise from the tracker motors, electrical collection system, substation, and operation and maintenance activities.

Construction noise from the Project would include both on- and off-site noise sources. On-site noise sources would be generated by equipment associated with construction activities described in the Project Description (see *Chapter 2).* Off-site construction noise would be generated by trucks delivering equipment and materials, as well as workers commuting to and from the proposed solar facility.

Operational noise associated with the Project would include off-site worker traffic; noise generated by the tracker motors, transformers, substation, and gen-tie line; and panel washing.

Noise associated with decommissioning would be similar to that of construction; however, it would be less intense and require a shorter duration.

For vibration impacts, human reactions and building damage potential occur at differing levels of vibration depending on whether the vibration events are isolated discrete events or frequent/continuous events. Based on Caltrans' Transportation- and Construction-Induced Vibration Guidance Manual (Caltrans, 2004), which assesses the potential for cosmetic (not structural) damage to buildings or structures of various types and ages. Building damage categories are:

- Extremely Low: level at which vibration is likely to cause cosmetic damage to extremely fragile historic buildings, ruins, or monuments
- Very Low: level at which vibration is likely to cause cosmetic damage to fragile buildings
- Low: level at which vibration is likely to cause cosmetic damage to historic buildings
- Moderate: level at which vibration is likely to cause cosmetic damage to older residential buildings
- High: level at which vibration is likely to cause cosmetic damage to newer residential buildings
- Very High: level at which vibration is likely to cause cosmetic damage to modern commercial and industrial buildings

A peak PPV threshold of 0.20 inch per second (in/sec) was identified as the level of vibration impacts related to adverse human reaction and risk of architectural damage to normal buildings[1] (Caltrans, 2004). This PPV threshold was used in this analysis to determine significant impacts associated with the PVMSP.

The purpose of this analysis is to identify and examine likely noise and vibration impacts from construction, operation and maintenance, and decommissioning of the Project and to recommend mitigation measures to minimize adverse effects.

[1] Architectural damage could be structural damage, such as cracking of floor slabs, foundations, columns, beams, or wells, or cosmetic architectural damage, such as cracked plaster, stucco, or tile.

Description of Solar Facility and Gen-tie Noise

Construction

Construction of the PVMSP would occur over a three-year period and construction workers would typically work Monday through Friday from 7:00 a.m. to 6:00 p.m. The peak of construction (construction of the solar array field, O&M buildings, substations, and gen-tie line) would occur over a two-year period and require approximately 300 to 500 workers. Up to 400 workers would be at the site during array installation and assembly. The solar facility would be developed in six-month phases with six blocks constructed at a time (each block would be 100 acres, for a total of 600 acres at a time).

Construction noise would be created from sources at the work sites and around staging areas or access routes. On-site noise generated during construction would occur primarily from heavy-duty diesel-powered construction equipment and other construction equipment. Off-site noise would be generated by trucks delivering materials and equipment to construction sites, as well as trucks hauling soil and vehicles used by workers commuting to and from the sites.

Construction equipment would include graders, bulldozers, backhoes, cranes, water trucks, generators, and delivery trucks. **Table 3.11-3** provides the estimated noise that would be generated by each of the individual pieces of equipment, similar to what would be required to construct the Project, based on the Federal Highway Administration (FHWA) Roadway Construction Noise Model. Equipment and operation noise levels are expressed in terms of L_{max} (maximum sound level) noise levels. The acoustical usage factor estimates the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during construction. Noise levels for each of the individual pieces of equipment would generate a maximum noise level ranging from 74 to 85 A-weighted decibels (dBA) L_{max} at 50 feet from the source, as shown in Table 3.11-3.

Based on similar solar projects, it is anticipated that the operation of heavy equipment for the construction of the Project would generate a combined maximum noise level of up to approximately 84 dBA L_{eq} (equivalent continuous noise level) at 75 feet from the construction activity (POWER, 2013). This noise level would diminish approximately 6 dBA per doubling of distance. At approximately 105 feet from the construction activity, noise levels would be approximately 78 dBA L_{eq} and at 300 feet, noise levels would be approximately 72 dBA L_{eq}. At approximately 1,200 feet from the construction activity, it is anticipated that noise levels would be 60 dBA L_{eq}. Implementation of BMP-18 would minimize construction noise impacts to sensitive receptors and wildlife.

For the residents adjacent to the Project area, located north of I-10 and west of the Project boundary, the assumed ambient noise level is 40.0 dBA L_{eq}. Projected ambient noise levels during construction are estimated to be 65 dBA L_{eq}. It is anticipated that the Project's grading phase would involve the greatest noise source for the sensitive receptors. However, the grading phase is also typically the shortest portion of the construction process for solar projects.

Construction of the gen-tie line, which is a long linear facility, would move along the length at a rapid pace and therefore would not subject any one sensitive noise receptor to noise impacts for more than a week. Furthermore, construction activities would be limited to daytime hours.

TABLE 3.11-3
CONSTRUCTION EQUIPMENT NOISE EMISSION LEVELS

Equipment	Acoustical Usage Factor (%)	Measured L_{max} (at 50 feet)
Backhoe	40	78
Compactor (ground)	20	83
Compressor (air)	40	78
Concrete Mixer Truck	40	79
Concrete Pump Truck	20	81
Dozer	40	82
Dump Truck	40	76
Excavator	40	81
Flat Bed Truck/Water Truck	40	74
Front End Loader	40	79
Truck-mounted crane	16	81
Generator	50	81
Grader	40	83
Paver	50	77
Pickup Truck	40	75
Pneumatic Tools	50	85
Pumps	50	81
Roller	20	80
Scraper	40	84
Welder/Torch	40	74

SOURCE: FHWA 2006

Construction of the Project would cause off-site noise, primarily from commuting construction workers and materials and equipment deliveries to the construction sites. It is anticipated that most workers would be drawn from the Blythe/Palo Verde Valley region and the Desert Center region, with a smaller portion drawn from the Imperial Valley or Eastern Riverside County region. Anticipated average material deliveries would consist of about 20 truck deliveries per day for 24 months. Workers and delivery trucks would utilize the Neighbours Boulevard off ramp from I-10 and gain primary access to the site from Buck Boulevard. Typical on-site work hours would be from 7:00 a.m. to 6:00 p.m. During the installation period, construction workers are projected to be on site five days per week, year-round. Due to weather or other major-type delays, times may shift to start as early as 5:00 a.m. and end as late as 8:00 p.m., as well as continue into the weekends. To comply with the Riverside County noise ordinance, construction activities during non-typical construction hours (hours between 6 p.m. and 6 a.m. June through September;

and hours between 6 p.m. and 7 a.m. October through May) would occur at a minimum of a quarter-mile (1,320 feet) from residents. Security would be on site 24 hours per day. As shown in Table 3.11-3, the maximum pass-by noise levels from trucks would be 74 to 76 dBA L_{max} at 50 feet. Although construction of the Project would occur over a three-year period, the solar array field would be developed in six-month phases with six blocks constructed at a time (approximately 600 acres at a time).

Temporary sources of groundborne vibration and noise during construction would result from operation of conventional heavy construction equipment such as pile drivers, graders, bulldozers, and loaded haul trucks. Based on information from Caltrans' Transportation- and Construction-Induced Vibration Guidance Manual, **Table 3.11-4** lists the anticipated ground vibration from typical construction equipment used to construct a solar facility. These pieces of equipment can generate vibration levels of up to 0.17 in/sec at a distance of 25 feet (Caltrans, 2004).

For the construction of a solar facility, the vibratory pile driver would produce the highest PPV level of 0.170 in/sec at 25 feet, which would not exceed Caltrans' PPV threshold of 0.20 in/sec. The closest building, which is a residence, is approximately 230 feet from the proposed solar facility boundary and approximately 480 feet away from the closest solar panel. At a distance of 300 feet, ground vibration from a vibratory pile driver would not be perceptible by humans and would have no potential for damage to buildings. Ground vibration from other construction equipment at 300 feet would not be perceptible to humans and would pose no risk of cosmetic damage to any existing buildings in the vicinity of the solar facility.

Operation and Maintenance

The primary noise sources associated with the operation and maintenance of the Project would be the tracker unit motors, substation transformers, modular power block inverters and medium voltage transformers, gen-tie line corona discharge, and maintenance activities.

The modular power blocks would each comprise four to six individual tracker units. Each tracker unit would include a drive unit that would consist of a 0.5-horsepower motor that would rotate the drive strut so that the solar PV panels would have the ability to maximize exposure to sunlight throughout the day. Based on specification of tracking motors for a similar PV project, the noise level of each proposed tracking motor is expected to be approximately 48 dBA at 50 feet (ICF, 2010). Assuming that each of the six motors of a power block would operate simultaneously, the combined noise level would be as high as 50 dBA at 50 feet, which would equate to 44 dBA at 100 feet and 38 dBA at 200 feet.

The modular power blocks also include an inverter and medium voltage transformer. Inverters would be housed in containers that would attenuate any inverter noise to negligible levels. It is anticipated that the medium-voltage transformers would result in noise levels substantially less than the high-voltage transformers located within the proposed substation (i.e., less than 53 dBA at 50 feet; see substation transformer discussion under Gen-tie Line below).

At 150 feet, the maximum noise from the power block's combined motors and transformers would be less than 45 dBA. Although not typical, during the summer months, there may be days when the power block motors and medium transformers would operate slightly before 7:00 a.m.

TABLE 3.11-4
GROUND VIBRATION LEVELS FOR TYPICAL CONSTRUCTION EQUIPMENT

Equipment Type	Vibratory Type	Parameter	Distance from Operating Equipment			
			25 feet	100 feet	200 feet	300 feet
Vibratory Pile Driver, Typical	Frequent or Continuous	PPV, in/sec	0.170	0.028	0.011	0.007
		Human Response	Mildly annoying	Barely perceptible	Barely perceptible	Not perceptible
		Building Damage Potential	Very low	None	None	None
Self-Loading Scraper	Frequent or Continuous	PPV, in/sec	0.089	0.015	0.006	0.004
		Human Response	Distinctly perceptible	Barely perceptible	Not perceptible	Not perceptible
		Building Damage Potential	Extremely low	None	None	None
Static Roller-Compactor	Frequent or Continuous	PPV, in/sec	0.089	0.015	0.006	0.004
		Human Response	Distinctly perceptible	Distinctly perceptible	Not perceptible	Not perceptible
		Building Damage Potential	Extremely low	None	None	none
Loaded Truck	Single Event	PPV, in/sec	0.076	0.013	0.005	0.003
		Human Response	Barely perceptible	Not perceptible	Not perceptible	Not perceptible
		Building Damage Potential	None	None	None	None
Small Bulldozer	Frequent or Continuous	PPV, in/sec	0.003	0.000	0.000	0.000
		Human Response	Not perceptible	Not perceptible	Not perceptible	Not perceptible
		Building Damage Potential	None	None	None	None
Excavator or Backhoe	Frequent or Continuous	PPV, in/sec	0.003	0.000	0.000	0.000
		Human Response	Not perceptible	Not perceptible	Not perceptible	Not perceptible
		Building Damage Potential	None	None	None	None
Wheeled Loader	Frequent or Continuous	PPV, in/sec	0.003	0.000	0.000	0.000
		Human Response	Not perceptible	Not perceptible	Not perceptible	Not perceptible
		Building Damage Potential	None	None	None	None

SOURCE: BLM 2011

After the construction phase, the operations and maintenance buildings would serve the Project's approximately 12 permanent full-time employees, which would include one plant manager, five engineers/technicians, and six security staff. Project facilities would be monitored during operating (daylight) hours, even though the Project facilities would be capable of automatic start up, shutdown, self-diagnosis, and fault detection. No heavy equipment would be used during normal operation.

Noise from the operation and maintenance of the Project would be created by security patrols, maintenance crews, wash crews, and the sound of electrical equipment, such as inverters and transformers. Security and maintenance staff would traverse the solar array field by utilizing lightweight vehicles along interior access roads. Panel washing crews would clean the panels up to twice a year with a lightweight to medium-duty truck. The truck would be fitted with a water tank and air compressor to operate a high-pressure sprayer and cleaning brush system.

Gen-tie Line

Electric transmission lines can generate a small amount of sound energy as a result of corona. Corona is a phenomenon associated with all transmission lines. Under certain conditions, the localized electric field near energized components and conductors can produce a tiny electric discharge or corona that causes the surrounding air molecules to ionize or undergo a slight localized change of electric charge. Utility companies try to reduce the amount of corona because, in addition to the low levels of noise that result, corona is a power loss, and, in extreme cases, it can damage system components over time. Under fair weather conditions, the audible noise from corona is minor and rarely noticed. During wet and humid conditions, water drops collect on the conductors and increase corona activity. Under these conditions, a crackling or humming sound may be heard in the immediate vicinity of the gen-tie line. The audible noise from a typical 240 kV line would likely be 40.5 dBA L_{50} (noise level exceeded 50 percent of the time) at approximately 50 feet (15 meters) during wet conditions; noise levels would be less during fair weather conditions (POWER, 2013). It is anticipated that the PVMSP's 230 kV gen-tie line would create noise levels similar to the 240 kV line. The transformers (located within the substations) would create noise levels of approximately 40 dBA L_{eq} (equivalent continuous noise level) at 200 feet. The inverters would be housed in steel and concrete enclosures and are anticipated to create noise levels of approximately 58 dBA L_{eq} at the source.

Decommissioning

Equipment used during decommissioning activities would be similar to those used during construction, including cranes, excavators, and air hammers. Decommissioning activities would generate a temporary, localized increase in ambient noise levels that would be similar, but less than, noise generated during construction. Decommissioning activities would be less intense and for a shorter duration.

3.11.4 Applicable Best Management Practices

As part of the Project, the following applicable BMP would minimize the environmental impacts associated with noise. The full BMP has been detailed below (see also Table 2-4 in Chapter 2) and is further referenced (by number) within the impact discussion.

BMP-18 **Noise.** The Project would minimize construction- and operation-related noise levels within 0.25 miles to sensitive receptors to minimize impacts to nearby residents. To minimize noise exposure of sensitive receptors, as well as wildlife, all construction vehicles and equipment (fixed or mobile) shall be equipped with properly operating and maintained mufflers, consistent with the manufactures' standard. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the Project area.

3.11.5 CEQA Significance Criteria

CEQA does not define what noise level increase would be considered substantial. Typically, an increase in noise level of at least 5 dBA is noticeable by most people and in a residential setting would not be a substantial adverse impact. An increase in noise level of 10 dBA is judged by most people as a doubling of the sound level, which would be considered a substantial adverse impact. Other factors that are considered in determining adverse noise impacts include: (1) the resulting combined noise level; (2) the duration and frequency of the noise; (3) the number of people affected; and (4) the land use designation of the affected receptor sites. Mitigation measures must be considered if significant impact to noise would occur from the construction, operation and maintenance, or decommissioning of the Project.

Typically, noise impacts due to construction activities are not considered substantial as long as construction activities are temporary, intermittently affect any one location, limit the use of heavy equipment and noise activities to daytime hours, and implement all industry standard noise abatement measures for noise-producing equipment.

Vibration-sensitive land uses would include high-precision manufacturing facilities or research facilities with optical and electron microscopes. None of these occur in the Project area. Therefore, a substantial impact resulting from excessive ground-borne vibration would depend on whether a nuisance, annoyance, or physical damage to any structure could occur. As noted, this EIR applies the peak PPV threshold of 0.20 inch per second (in/sec) to determine whether ground-borne vibration is considered excessive.

The following was used to determine CEQA significance of impacts to noise and were derived from Appendix G of the CEQA Guidelines. Impacts of the PVMSP would be considered significant and would require mitigation if they result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (see Impact NOI-1);
- Substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (see Impact NOI-2);
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (see Impact NOI-3);

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the exposure of people residing or working in the project area to excessive noise levels (see Impact NOI-4); or
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project (see Impact NOI-5).

The following additional significance criterion from the County of Riverside's Environmental Assessment Form was used in the analysis. A project could have potentially significant impacts if it results in:

- Impacts from railroad or highway noise (see Impact NOI-6).

Effects Found Not to Be Significant

It was determined that all of the significance thresholds could have a least one potentially significant impact. Therefore, no potentially significant effects have been eliminated from detailed consideration.

3.11.6 Impact Analysis

Impact NOI-1: Construction of the Project could result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This impact would be *less than significant with mitigation incorporated.*

Construction

Construction of the Project would occur over a three-year period and the solar facility would be developed in six-month phases with six blocks constructed at a time (approximately 600 acres at a time). Construction noises associated with each phase would accordingly move when construction activities move to the next phase. Based on similar solar projects, it is anticipated that the operation of heavy equipment for the construction of the solar facility would generate a combined maximum noise level of up to approximately 84 dBA L_{eq} at 75 feet from the construction activity (POWER, 2013). This noise level would diminish approximately 6 dBA per doubling of distance. At approximately 150 feet from the construction activity, noise levels would be approximately 78 dBA L_{eq} and at 300 feet, noise levels would be approximately 72 dBA L_{eq}. The closest resident is located approximately 231 feet from the Project boundary. Based on the noise measurements taken on the north end of the Blythe Energy Center property, it is assumed that the ambient noise level for the proposed Project is 44.0 dBA L_{eq} (BEP, 1999). Projected ambient noise levels during construction are estimated to be 65 dBA L_{eq}. While it is anticipated that the Project's grading phase would involve the greatest noise source for sensitive receptors, the grading phase is also typically the shortest portion of the construction process for solar projects. Construction activities would be temporary and only intermittently affect any one location. Noise levels would increase during construction; however, typical construction hours would occur between the hours of 7:00 a.m. and 6:00 p.m. and therefore be exempt from the County of Riverside's Ordinance No. 847. Noise levels would also be within the City of Blythe's noise threshold of 65 dB L_{dn} (day-night average sound level). However, during construction,

noise levels for residents within 0.25 mile would increase greater than 10 dBA, which would result in a significant impact. To reduce impacts to sensitive receptors to less than significant level, implementation of Mitigation Measure NOI-1 would restrict construction hours to comply with the County of Riverside's Noise Ordinance No. 847 and implementation of Mitigation Measure NOI-2 to notify residents within 2,400 feet of the Project area would further minimize noise impacts.

There are four residences in close proximity to the proposed gen-tie line; construction activities would be temporary and only intermittently affect any one location. BMP-18 would also be implemented to minimize construction noise levels. Therefore, impacts from the gen-tie line construction would be considered less than significant.

Construction workers may be exposed to excessive noise levels that would be considered significant. With implementation of Mitigation Measure NOI-3, impacts would be reduced to less than significant levels.

Operation

At 150 feet, the maximum noise from the power block's combined motors and transformers would be less than 45 dBA. Although not typical, during the summer months, there may be days when the power block motors and medium transformers would operate slightly before 7:00 a.m. The noise generated by the modular power blocks would be similar to the extrapolated existing ambient noise level in the Project area, which is 44 dBA L_{eq} (refer to Section 3.11, *Noise*, in Chapter 3). The closest residence is about 230 feet from the Project boundary and noise attenuates with distance; therefore, the noise levels would be less than 45 dBA, which is the County of Riverside's maximum decibel level for rural residential areas for daytime and nighttime, as well as within the City of Blythe's acceptable noise levels. Therefore, impacts from operation of the solar facility would be less than significant.

The anticipated audible noise from a typical 240 kV line would likely be 40.5 dBA L_{50} at approximately 50 feet (15 meters) during wet conditions; noise levels would be less during fair weather conditions (POWER, 2013). It is anticipated that the PVMSP's 230 kV gen-tie line would create noise levels similar to the 240 kV line. Noise attenuates with distance; therefore, audible noise for the gen-tie line would be less than ambient noise levels. The transformers (located within the substations) would create noise levels of approximately 40 dBA L_{eq} at 200 feet. The inverters would be housed in steel and concrete enclosures and are anticipated to create noise levels of approximately 58 dBA L_{eq} at the source. The closest residence to the substation would be approximately 1,250 feet away. From this distance, noise levels of the transformers and inverters would be similar to ambient noise levels. Therefore, impacts from operation of the inverters and substations would be less than significant. There are no sensitive receptors in close proximity to the proposed gen-tie line; therefore, no impacts would occur from operation of the gen-tie line.

Decommissioning

Decommissioning of the PVMSP would require removal of the solar equipment and facilities and transportation of all components off site. Equipment used for decommissioning would generally

be similar to that used for construction; however, it is anticipated that the overall activity necessary during decommissioning could be completed in one year and would be less intense than that of construction. Therefore, impacts from decommissioning would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures NOI-1 through NOI-3 would mitigate Impact NOI-1.

Significance after Mitigation

This impact would be less than significant with implementation of Mitigation Measures NOI-1 through NOI-3.

Impact NOI-2: Construction of the Project could create a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project. This impact would be *less than significant with mitigation incorporated.*

Construction

Project construction would temporarily increase ambient noise levels in the Project vicinity above existing levels. Construction activities would be temporary and only intermittently affect any one location. This impact would be significant. As described above in Impact NOI-1, implementation of Mitigation Measures NOI-1 through NOI-3 would reduce potential noise impacts to a less than significant.

Operations

As discussed in Impact NOI-1, the operation of a solar facility and gen-tie line would not result in substantial temporary or periodic increase in ambient noise levels in the Project vicinity above existing noise levels. Therefore, impacts from operation of the solar facility would be less than significant.

Decommissioning

Equipment used for decommissioning would generally be similar to that used for construction; however, it is anticipated that the overall activity necessary during decommissioning could be completed in one year and would be less intense than that of construction. Therefore, impacts from decommissioning would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures NOI-1 through NOI-3 would mitigate Impact NOI-2.

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures NOI-1 through NOI-3 incorporated.

Impact NOI-3: The Project could expose persons to or generate excessive ground-borne vibration or ground-borne noise levels. This impact would be *less than significant.*

Construction

Project construction activities would require the use of heavy construction equipment that would result in ground-borne vibration. The vibratory post driver used for installation of the solar array piles would result in the highest vibration levels. Vibration levels at the closest residence locations would be well below peak particle velocity (PPV) thresholds. Therefore, construction-related vibration impacts would be less than significant.

Operation

Project operation would not introduce any new sources of perceivable ground-borne vibration to the area surrounding the Project area. Therefore, there would be no operation-related vibration impacts.

Decommissioning

Decommissioning of the PVMSP would require removal of the solar equipment and facilities and transportation of all components off site. However, it would not require the use of vibratory post drivers or introduce any new source of perceivable ground-borne vibration to the area surrounding the Project area and no impact would occur.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact NOI-4: The Project would be located within an airport land use plan, which could result in the exposure of people working in the Project area to excessive noise levels. This impact would be *less than significant with mitigation incorporated.*

The Project would be located approximately 0.5 mile from the Blythe Municipal Airport. Construction, operation, and maintenance personnel working close to the Blythe Municipal Airport may be exposed to elevated noise levels from aircraft. This impact would be significant. With implementation of Mitigation Measure NOI-3 (Hearing Conservation Program and Personal Protective Equipment Program), impacts would be reduced to a less than significant level. The programs would be designed to protect construction, operation, and maintenance personnel from occupational exposure to excessive noise levels while at work through administrative policies and procedures, engineering controls, monitoring, selection and use of personal protective equipment, training, and recordkeeping. Personal hearing protection will be issued to employees on the proposed Project area based on the decibel level experienced in the work environment.

Mitigation Measures

Implementation of Mitigation Measure NOI-3 would mitigate this impact.

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measure NOI-3.

Impact NOI-5: The Project could create a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. This impact would be *less than significant.*

Over the long-term, as previously described in Impact NOI-1, the Project would generate noise associated with the operation and maintenance of the tracker unit motors, substation transformers, modular power block inverters and medium voltage transformers, transmission line corona discharge, and maintenance activities. However, noise attenuates with distance and the Project would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

Impact NOI-6: The Project could result in impacts from railroad or highway noise. This impact would be *less than significant.*

The Project would not utilize railroad service for delivery of materials or workers; therefore, no impacts related to railroad noise would occur from the construction, operation, maintenance, and decommissioning of the Project.

Construction

During construction, workers commuting to the Project area and delivery of materials would result in a nominal increase in traffic along the I-10 (approximately 300 to 500 workers); I-10 is a four-lane freeway with an average daily traffic of 22,500 (Caltrans, 2011). Therefore, the Project's construction traffic would result in a negligible increase in highway traffic and noise. Impacts related to highway noise during construction would be less than significant.

Operations

Operation of the Project would require 12 full-time permanent employees. No impacts related to highway noise during operation of the Project would occur. Impacts related to highway noise during operations would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

3.11.7 Cumulative Impacts

Noise levels generally diminish quickly with distance from a source; therefore, the geographic scope for cumulative impacts associated with noise would be limited to projects located within approximately 0.5 mile of the PVMSP.

Construction

Cumulative noise impacts could occur when overlapping construction schedules of multiple projects create a temporary or permanent increase in ambient noise levels or expose persons to or generate excessive ground-borne vibration or ground-borne noise levels, resulting in cumulatively considerable noise impacts to sensitive receptors.

The following projects were identified as reasonably foreseeable and could be constructed and operated simultaneously with the Project: Blythe Mesa Solar Project, Blythe Airport Solar I Project, Blythe Energy Project II, Desert Quartzite, Sonoran West SEGS, McCoy Solar Project, Desert Southwest 500 kV Transmission Line, and Devers-Palo Verde #2 500 kV Transmission Line. Although unlikely, it is possible that construction and operation of these solar projects and electrical facilities could occur at the same time. If all of these projects were constructed at the same time, the combined effects to noise from the cumulative projects within the geographic scope of analysis would be considered significant. However, it is important to note that the other cumulative projects would be at a greater distance from the existing sensitive receptors that would experience negligible noise levels from construction, operation, maintenance, and decommissioning of the Project. Additionally, the primary noise sources in the Project area are traffic from I-10 and airplane noise from the Blythe Municipal Airport. Therefore, it is unlikely that Project's incremental contribution to noise levels in the cumulative scenario would be cumulatively considerable or would result in a combined noise level that would cause an adverse effect (see Impacts NOI-1 through NOI-4 and NOI-6). As described above in Impact NOI-1, implementation of Mitigation Measures NOI-1 through NOI-3 would reduce potential noise impacts of the Project to less than significant. In addition, the Project would not have vibration- or ground-borne noise-related impacts.

Operations

Long-term operation- and maintenance-related impacts associated with the Project would not result in permanent impacts related to noise (see Impact NOI-5). Therefore, the Project's incremental contribution to noise levels from operations in the cumulative scenario would not be cumulatively considerable.

Decommissioning

Noise levels during decommissioning would be similar to those projected during Project construction, since it is anticipated that the equipment used during decommissioning would be similar to that used during construction. The noise levels would be temporary and, similar to construction-related noise levels. Implementation of Mitigation Measures NOI-1 through NOI-3 would reduce potential noise impacts of the Project to less than significant. Therefore, the

Project's incremental contribution to noise levels from decommissioning in the cumulative scenario would not be cumulatively considerable.

Mitigation Measures

No mitigation is required.

Significance after Mitigation

Cumulative impacts would be less than significant.

3.11.8 Mitigation Measures

NOI-1 Construction shall be prohibited in areas within 0.25 mile (1,320 feet) of residents, between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May. The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receivers nearest the project site during project construction. No music or electronically reinforced speech from construction workers shall be audible at noise-sensitive properties. During all project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. Where feasible, the construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

NOI-2 Prior to and during construction, decommissioning, and ground disturbing activities, the applicant shall provide at least two weeks' advance notice of construction and decommissioning. Notices shall be mailed directly to land owners and residents within 2,400 feet of the Project boundary, and signs shall be a minimum size of 4 feet high by 6 feet wide and posted at the solar facility in areas accessible to the public. Notices shall announce when and where construction would occur; provide tips on reducing noise intrusion (e.g., closing windows facing the planned construction); and provide contact information for the local public liaison for any noise complaints.

NOI-3 The applicant would implement a Hearing Conservation Program and Personal Protective Equipment Program that would provide personal protective devices for specific jobs that would produce excessive noise levels. The Applicant shall comply with the Occupational Safety and Health Administration's (OSHA) regulations on occupational noise exposure.

3.12 Paleontological Resources

This section summarizes the results of a literature review and records searches regarding paleontological resources that could potentially be impacted by the Project and Alternatives. The information in this section is based on the Palo Verde Mesa Solar Project Paleontological Resources Survey Report, prepared by John Minch and Associates, Inc. 2012 (Appendix I of this Draft EIR/EA). This section also describes the affected environment and regulatory setting for paleontological resources.

Paleontological resources are any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that provide the only direct evidence of ancient life. They are considered to be non-renewable resources because they cannot be replaced once they are destroyed. For the purpose of this analysis, and accordance with the BLM Potential Fossil Yield Classification (PFYC) system, scientifically significant paleontological resources are defined as vertebrate fossils that are identifiable to taxon and/or element, noteworthy occurrences of invertebrate and plant fossils, and vertebrate trackways.

3.12.1 Environmental Setting

The Project is located on the Palo Verde Mesa, an area on the west bank of the Colorado River above and east of the Palo Verde Valley, in eastern California. The Palo Verde Mesa is a nearly continuous terrace on the north and west sides of the Colorado River between the southern limit of the Big Maria Mountains and the east piedmont of the Palo Verde Mountains in the south**.** The Project area is north of the Mule Mountains and east of the McCoy Mountains. Some references consider the Palo Verde Mesa to lie within the Colorado Desert physiographic province; others consider it to lie within the Mojave Desert physiographic province. The salient difference between the two is that the Mojave Desert is high desert, whereas the Colorado Desert is low desert. Given the elevation of the Project is below 1000 feet above mean sea level (amsl), for the purposes of this document, the Project is considered part of the Colorado Desert physiographic province.

Geologic Units within the Project Area

According to geologic mapping, **Figure 3.6-1**, ***Site Geology***, the majority of the solar facility is underlain by alluvial deposits of the Palo Verde Mesa of Pleistocene (approximately 2.58 million years ago (mya) to 11,000 years ago) age (Qpv). Other units exposed on the solar facility site include: 1) minor exposures of Alluvium of Modern Washes (Qw) (Holocene – approximately 11,000 years ago to present) within two washes in the eastern portion of the site; 2) minor exposures of alluvial-fan and alluvial Valley Deposits (Qa6) (Holocene) underlie a small area in the western portion of the site; and 3) alluvial Deposits of the McCoy Wash Area (Pliocene to Pleistocene – approximately 5.5 to 2.58 mya) (QTmw) underlie a small area in the northern portion of the site. The majority of the gen-tie line is underlain by alluvial Deposits of the Palo Verde Mesa (Qpv) (Pleistocene). Other units exposed on the gen-tie line include: 1) minor exposures of Alluvium of Modern Washes (Qw) (Holocene) within one wash; 2) exposures of Alluvium of Modern Washes (Qa6) (Holocene); and 3) Eolian Sand (Qs) (Holocene).

3.12.2 Regulatory Framework

Federal

There are a number of federal statutes that specifically address paleontological resources. These statutes generally become applicable to a specific project if the project involves: 1) a federal agency license, permit, approval, or funding; and/or 2) if the project crosses federal lands. Federal legislative protection for paleontological resources stems from the Antiquities Act of 1906 as amended (PL 59-209; 34 Stat. 225; 16 USC 431-43), which calls for protection of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on federal lands.

Antiquities Act of 1906

The Antiquities Act of 1906 is used as the basis for federal protection of paleontological resources on federal lands. The act authorizes the government to regulate the disturbance of objects of antiquity on federal lands and is the first federal legislative protection of paleontological resources. The act forbids unauthorized damage or removal of such objects and also establishes criminal permissions for unauthorized appropriation or destruction of antiquities.

Federal Land Management and Policy Act

The Federal Land Management and Policy Act (FLMPA) of 1976 recognizes significant paleontological resources as scientific resources and requires Federal agencies to manage public lands in a manner that protects scientific resource quality. .

Bureau of Land Management

BLM Manual Section 8270 and BLM Handbook H-8270-1

BLM Manual Section 8270 (Paleontological Resource Management) and BLM Handbook H-8270-1 (General Procedural Guidance for Paleontological Resource Management) contain the guidance for the management of paleontological resources on public land. The manual has more information on the authorities and regulations related to paleontological resources. The handbook gives procedures for permit issuance, requirements for qualified applicants, information on paleontology and planning, and a classification system for potential fossil-bearing geologic formations on public lands (BLM, 2012).

BLM Instruction Memorandum 2008-009

On October 15, 2007, the BLM formalized the use of the PFYC system. This new classification system is used for identifying fossil potential on public lands with the release of Instruction Memorandum (IM) 2008-009. The classification system is based on the potential for the occurrence of significant paleontological resources in a geologic unit, and the associated risk for impacts to the resource based on federal management actions. It is intended to be applied in a broad approach for planning efforts, and as an intermediate step in evaluating specific projects. This IM is part of a larger effort to update Handbook H-8270-1, Chapter II (Land Use Planning and Environmental Review) and Chapter III (Assessment & Mitigation) and will be incorporated into that Handbook update (BLM, 2012).

BLM Instruction Memorandum 2009-011

On October 10, 2008, the BLM introduced IM 2009-011, which provides guidelines for assessing potential impacts to paleontological resources in order to determine mitigation steps for federal actions on public lands under FLPMA and NEPA. In addition, the IM provides field survey and monitoring procedures to help minimize impacts to paleontological resources from federal actions in the case where it is determined that significant paleontological resources will be adversely affected by a federal action (BLM, 2012).

Potential Fossil Yield Classification System

Occurrences of paleontological resources are closely tied to the geologic units (i.e., formations, members, or beds) that contain them. The probability for finding paleontological resources can be broadly predicted from the geologic units present at or near the surface. Therefore, geologic mapping can be used for assessing the potential for the occurrence of paleontological resources.

The BLM uses the PFYC system, which classifies geologic units based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts, with a higher class number indicating a higher potential. This classification is applied to the geologic formation, member, or other distinguishable unit, preferably at the most detailed mappable level. It is not intended to be applied to specific paleontological localities or small areas within units. Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher class; instead, the relative abundance of significant localities is intended to be the major determinant for the class assignment.

Paleontological Resources Preservation Act of 2009

The Paleontological Resources Preservation Act (PRPA), Title VI, Subtitle D of the Omnibus Public Lands Act directs the Secretaries of the Interior and Agriculture to manage and protect paleontological resources on federal land using “scientific principles and expertise.” The PRPA incorporates most of the recommendations of the report of the Secretary of the Interior entitled "Assessment of Fossil Management on Federal and Indian Lands (USDI, 2000) in order to formulate a consistent paleontological resources management framework. In passing the PRPA, Congress officially recognized the scientific importance of paleontological resources on some federal lands by declaring that fossils from these lands are federal property that must be preserved and protected. The PRPA codifies existing policies of the BLM, NPS, USFS, Bureau of Reclamation, and USFWS, and provides the following:

1. criminal and civil penalties for illegal sale and transport, and theft and vandalism of fossils from federal lands;
2. minimum requirements for paleontological resource-use permit issuance (terms, conditions, and qualifications of applicants);
3. definitions for “paleontological resources” and “casual collecting”; and
4. requirements for curation of federal fossils in approved repositories.

Federal legislative protections for scientifically significant fossils apply to projects that take place on federal lands (with certain exceptions such as DOD), involve federal funding, require a federal permit, or involve crossing state lines. Because a portion of gen-tie line for the proposed Project occurs on BLM-managed lands, federal protections for paleontological resources apply under NEPA and FLPMA.

Paleontological resources are also afforded federal protection under 40 CFR § 1508.27 as a subset of scientific resources. The most explicit federal protection for paleontological resources, enacted in 2009, is the Paleontological Resources Preservation Act. This act regulates who may collect fossils on public lands and where such fossils must be curated. It also provides for prosecution of violators.

State

The California Environmental Quality Act (CEQA)

The primary state environmental law protecting fossils is the CEQA (Public Resources Code Section 21000 et seq.). CEQA requires that public agencies and private interests identify the environmental consequences of their proposed projects on any object or site of significance to the scientific annals of California (Division I, California Public Resources Code, Section 5020.1 [b]). Administrative regulations for the implementation of CEQA are set forth in California Code of Regulations (CCR) Section 15000 et seq., commonly known as the "CEQA Guidelines." The Guidelines define procedures, types of activities, persons, and public agencies required to comply with CEQA. Appendix G of the Guidelines contains an Environmental Checklist of questions that a lead agency should normally address if relevant to a project's environmental impacts.

CEQA Guidelines Section V (a) of the Environmental Checklist asks question directly applicable paleontological resources: "Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" Fossils are significant examples of the major periods of California prehistory. To be in compliance with CEQA, environmental impact assessments, statements, and reports must answer this question in the Environmental Checklist to determine the potential impact to paleontological resources with and without mitigation.

The CEQA lead agency having jurisdiction over a project is responsible for ensuring that paleontological resources are protected in compliance with CEQA and other applicable statutes. CEQA Section 21081.6 requires that the lead agency demonstrate project compliance with mitigation measures developed during the environmental impact review process.

Public Resources Code §5097.5

Public Resources Code §5097.5 includes additional state-level requirements for the assessment and management of paleontological resources, including the reasonable mitigation of adverse impacts to paleontological resources resulting from development on public lands (lands under state, county, city, or public district or agency ownership or jurisdiction). This regulation defines the removal of paleontological "sites" or "features" from public lands as a misdemeanor, and prohibits the removal of any paleontological "site" or "feature" from public land without

permission of the applicable jurisdictional agency. These protections apply only to non-federal public lands within California.

Public Resources Code §30244

If paleontological resources would be adversely impacted as identified by the State Historic Preservation officer, reasonable mitigation measures shall be required.

Local

Riverside County General Plan

The Multipurpose Open Space Element of the Riverside County General Plan identifies a number of policies intended to minimize impacts to paleontological resources. It also includes a Paleontological Sensitivity Resources map indicating lands with low, undetermined, or high potential for finding paleontological resources. The following policies apply to the portions of the Project area within County- and privately owned lands (Riverside County, 2015):

> **Policy OS 19.6:** Whenever existing information indicates that a site proposed for development has high paleontological sensitivity as shown on Figure *OS-8* OS-7, a paleontological resource impact mitigation program (PRIMP) shall be filed with the Riverside County Geologist *prior to site grading*. The PRIMP shall specify the steps to be taken to mitigate impacts to paleontological resources.
>
> **Policy OS 19.7:** Whenever existing information indicates that a site proposed for development has low paleontological sensitivity as shown on Figure OS-8 OS-7, no direct mitigation is required unless a fossil is encountered during site development. Should a fossil be encountered, the Riverside County Geologist shall be notified and a paleontologist shall be retained by the project proponent. The paleontologist shall document the extent and potential significance of the paleontological resources on the site and establish appropriate mitigation measures for further site development.
>
> **Policy OS 19.8:** Whenever existing information indicates that a site proposed for development has undetermined paleontological sensitivity as shown on Figure OS-8 OS-7, a report shall be filed with the Riverside County Geologist documenting the extent and potential significance of the paleontological resources on site and identifying mitigation measures for the fossil and for impacts to significant paleontological resources prior to approval of that department**.**
>
> **Policy OS 19.9:** Whenever paleontological resources are found, the Riverside County Geologist shall direct them to a facility within Riverside County for their curation, including the Western Science Center in the City of Hemet..

City of Blythe General Plan

The City of Blythe General Plan Open Space and Conservation Element addresses archaeological, historic, and paleontological resources. The purpose of the Open Space and Conservation Element is to identify those areas located within the City's Planning Area boundary that merit recognition or preservation because of their location use and/or natural, topographic, or

aesthetic features. The applicable policy related to archaeological and paleontological resources is provided below.

Open Space and Conservation Element

Policy 25. Protect archaeological, historic, and paleontological resources for their aesthetic, scientific, educational, and cultural value.

Paleontological Resource Classifications

Society of Vertebrate Paleontology

The County of Riverside uses the Society of Vertebrate Paleontology (SVP) definitions for four categories of paleontological resource potential (potential for rock units: high, low, undetermined, and no potential) (SVP, 2010):

High Potential. Rock units from which vertebrate or significant invertebrate fossils or suites of plant fossils or trace fossils have been recovered and are considered to have a high potential for containing significant nonrenewable paleontological resources. These units include, but are not limited to, sedimentary formations/units, volcanic formations (extrusive ashes and tephras), and low-grade metamorphic rock units that contain significant paleontological resources anywhere they are found. Sensitivity comprises both (a) the potential for yielding significant vertebrate, invertebrate, or botanical or trace fossils, and (b) the importance of data recovered for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. Areas that contain potentially datable organic remains older than late Holocene are also classified as significant.

Low Potential. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potential for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections or based on general scientific consensus, only rarely preserve fossils to the point that fossil preservation is the exception and not the rule.

Undetermined Potential. Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potential. Further study is necessary to determine if a rock unit with undetermined potential for significant paleontological resources actually has high or low potential to yield significant paleontological resources. This can potentially be determined through a survey by a qualified paleontologist.

No Potential. High-grade metamorphic rocks and plutonic igneous rock units (i.e. granites and diorites) do not normally yield fossils and therefore have no potential to yield significant nonrenewable fossiliferous resources.

Fossil Yield Classification System

As was previously mentioned, the BLM adopted a different paleontological resource assessment system (the PFYC) system. The PFYC system classifies geologic units based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts, with a higher class number indicating a higher potential. This

classification is applied to the geologic formation, member, or other distinguishable unit, preferably at the most detailed mappable level. The BLM uses the PFYC system to assess the potential for discovery of significant paleontological resources or the impact of surface disturbing activities to such resources by using a five class ranking system.

Class 1 – Very Low. Geologic units that are not likely to contain recognizable fossil remains. This class usually includes units that are igneous or metamorphic, excluding reworked volcanic ash units; or units that are Precambrian in age or older. Management concern for paleontological resources in Class 1 units is usually negligible or not applicable. Assessment or mitigation is usually unnecessary except in very rare or isolated circumstances. The probability for impacting any fossils is negligible. Assessment or mitigation of paleontological resources is usually unnecessary. The occurrence of significant fossils is non-existent or extremely rare.

Class 2 – Low. Sedimentary geologic units that are not likely to contain vertebrate fossils or scientifically significant nonvertebrate fossils. This class typically includes vertebrate or significant invertebrate or plant fossils not present or very rare; units that are generally younger than 10,000 years before present; recent aeolian deposits; and sediments that exhibit significant physical and chemical changes (i.e., diagenetic alteration). Management concern for paleontological resources is generally low. Assessment or mitigation is usually unnecessary except in rare or isolated circumstances. The probability for impacting vertebrate fossils or scientifically significant invertebrate or plant fossils is low. Assessment or mitigation of paleontological resources is not likely to be necessary. Localities containing important resources may exist, but would be rare and would not influence the classification. These important localities would be managed on a case-by-case basis.

Class 3 – Moderate or Unknown. Fossiliferous sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence; or sedimentary units of unknown fossil potential. This class is often marine in origin with sporadic known occurrences of vertebrate fossils, as well as vertebrate fossils and scientifically significant invertebrate or plant fossils known to occur intermittently. The predictability of the fossils within these units is known to be low or poorly studied and/or poorly documented. Potential yield cannot be assigned without ground reconnaissance. Class 3 is subdivided into two groups:

- Class 3a – Moderate Potential. Units are known to contain vertebrate fossils or scientifically significant nonvertebrate fossils, but these occurrences are widely scattered. Common invertebrate or plant fossils may be found in the area, and opportunities may exist for hobby collecting. The potential for a project to be sited on or impact a significant fossil locality is low, but is somewhat higher for common fossils.
- Class 3b – Unknown Potential. Units exhibit geologic features and preservational conditions that suggest significant fossils could be present, but little information about the paleontological resources of the unit or the area is known. This may indicate the unit or area is poorly studied, and field surveys may uncover significant finds. The units in this Class may eventually be placed in another Class when sufficient survey and research

is performed. The unknown potential of the units in this Class should be carefully considered when developing any mitigation or management actions.

For Class 3, the management concern for paleontological resources is moderate; or cannot be determined from existing data. Surface-disturbing activities may require field assessment to determine appropriate course of action. This classification includes a broad range of paleontological potential. It includes geologic units of unknown potential, as well as units of moderate or infrequent occurrence of significant fossils. Management considerations cover a broad range of options as well, and could include pre-disturbance surveys, monitoring, or avoidance. Surface-disturbing activities will require sufficient assessment to determine whether significant paleontological resources occur in the area of a proposed action, and whether the action could affect the paleontological resources. These units may contain areas that would be appropriate to designate as hobby collection areas due to the higher occurrence of common fossils and a lower concern about affecting significant paleontological resources.

Class 4 – High. Geologic units containing a high occurrence of significant fossils. Vertebrate fossils or scientifically significant invertebrate or plant fossils are known to occur and have been documented, but may vary in occurrence and predictability. Surface disturbing activities may adversely affect paleontological resources in many cases. This class is subdivided into two groups, based primarily on the degree of soil cover.

- Class 4a – Unit is exposed with little or no soil or vegetative cover. Outcrop areas are extensive with exposed bedrock areas often larger than two acres. Paleontological resources may be susceptible to adverse impacts from surface disturbing actions. Illegal collecting activities may impact some areas.
- Class 4b – These are areas underlain by geologic units with high potential but have lowered risks of human-caused adverse impacts and/or lowered risk of natural degradation due to moderating circumstances. The bedrock unit has high potential, but a protective layer of soil, thin alluvial material, or other conditions may lessen or prevent potential impacts to the bedrock resulting from the activity.

The management concern for paleontological resources in Class 4 is moderate to high, depending on the proposed action. A field survey by a qualified paleontologist is often needed to assess local conditions. Management prescriptions for resource preservation and conservation through controlled access or special management designation should be considered. Class 4 and Class 5 units may be combined as Class 5 for broad applications, such as planning efforts or preliminary assessments, when geologic mapping at an appropriate scale is not available. Resource assessment, mitigation, and other management considerations are similar at this level of analysis, and impacts and alternatives can be addressed at a level appropriate to the application.

Mitigation considerations must include assessment of the disturbance, such as removal or penetration of protective surface alluvium or soils, potential for future accelerated erosion, or increased ease of access resulting in greater looting potential. If impacts to significant fossils can be anticipated, on-the-ground surveys prior to authorizing the surface disturbing action

will usually be necessary. On-site monitoring or spot-checking may be necessary during construction activities.

Class 5 – Very High. Highly fossiliferous geologic units that consistently and predictably produce vertebrate fossils or scientifically significant invertebrate or plant fossils, and that are at risk of human-caused adverse impacts or natural degradation.

- Class 5a – Unit is exposed with little or no soil or vegetative cover. Outcrop areas are extensive with exposed bedrock areas often larger than two contiguous acres. Paleontological resources are highly susceptible to adverse impacts from surface disturbing actions. Unit is frequently the focus of illegal collecting activities.
- Class 5b – These are areas underlain by geologic units with very high potential but have lowered risks of human-caused adverse impacts and/or lowered risk of natural degradation due to moderating circumstances. The bedrock unit has very high potential, but a protective layer of soil, thin alluvial material, or other conditions may lessen or prevent potential impacts to the bedrock resulting from the activity.

Management concern for paleontological resources in Class 5 areas is high to very high. A field survey by a qualified paleontologist is usually necessary prior to surface disturbing activities or land tenure adjustments. Mitigation will often be necessary before and/or during these actions. Official designation of areas of avoidance, special interest, and concern may be appropriate. The probability for impacting significant fossils is high. Vertebrate fossils or scientifically significant invertebrate fossils are known or can reasonably be expected to occur in the impacted area. On-the-ground surveys prior to authorizing any surface disturbing activities will usually be necessary. On-site monitoring may be necessary during construction activities.

Combining Paleontological Resource Classifications

The two resource classification systems have distinctly different categories to evaluate paleontological resources. Generally, these two classification systems are compatible (see **Table 3.12-1**). However, because PFYC classification 3 falls in between the SVP high and low categories and includes an unknown classification (PFYC 3b), it can potentially be rated by three different SVP ratings (high, low, and undetermined).

TABLE 3.12-1
COMBINED PFYC AND SVP RATINGS

PFYC Rating	SVP Rating
1 Very Low	Low or No Potential
2 Low	Low Potential
3a Moderate	High or Low Potential
3b Unknown	Undetermined
4 High	High potential
5 Very High	High potential

3.12.3 Methodology for Analysis

Literature and Records Search

John Minch and Associates, Inc. prepared a paleontological resources assessment for the proposed Project. The assessment included a literature search, including previously recorded lists of fossils and paleontological fossil localities recorded for the general site vicinity. The purpose of the literature search was to determine: (1) pertinent geologic and paleontologic site information, and (2) the paleontologic sensitivity of identified and/or anticipated geologic units underlying the Project area. The literature search included a review of all available data pertinent to the site, including environmental reports, professional geological publications, paleontologic consultant reports, and other unpublished documents related to regional and/or detailed geologic studies. Geologic maps delineating the rock formations underlying the Project area were also reviewed. The geological units present within the Project boundaries are assigned a sensitivity classification (SVP classification and BLM PFYC rating). Based on those classifications, and in accordance with BLM protocol, potential impacts to paleontological resources by the proposed Project were determined.

Records searches at the Los Angeles County Museum (LACM), San Bernardino County Museum (SBCM) and review of databases from the University of California Berkeley Museum of Paleontology (UCMP) provided additional data. Based on review of the LACM, SBCM and UCMP records, fossil lists, and published and unpublished literature, no known paleontological resource localities have been previously recorded within the Project area. While the Pleistocene Colorado River alluvium in the Needles area has yielded the remains of an extinct mammoth and the Colorado River delta deposits in the northwestern Sonoran Desert have yielded many vertebrate fossils, to a degree, not much is known of the paleontological history of the Mojave and Colorado Deserts. .Sedimentary geologic units within the Mojave and Colorado Desert regions are generally isolated, specific to local areas, and of questionable ages. Without datable ash beds or volcanic flows the age of the various units are generally determined by 1) relationships to other units, 2) their general appearance, 3) by their relative degree of dissection, and 4) if available, presence of index fossils or fossils that can yield a reliable radiocarbon date. Due to active faulting and differential rates of erosion, units of differing ages often exhibit similar characteristics in different basins, which make the correlation of units from area to area difficult and speculative. Thus, any fossil localities in Pleistocene (approximately 2.58 mya to 11,000 years ago) sediments are indicative of the high paleontological sensitivity of any Pleistocene sedimentary unit.

Paleontological Resources within the Project Area

The Project area is underlain by six geologic units that are described below from oldest to youngest:

QTmw - Alluvial deposits of the McCoy Wash area (possibly Pliocene to Pleistocene – approximately 5.3 million years ago (mya) to 11,000 years ago) The alluvial deposits of the McCoy Wash area consists of ancestral Colorado River alluvial deposits of rounded river gravel and minor locally derived gravel form several broad hills standing 15 to 25 m above Palo Verde Mesa in the southeast side of the McCoy Mountains. Hillside exposures show that

the surface gravels are underlain by brown, well-consolidated calcareous or gypsiferous sandstone. Stratigraphic relations of QTmw with adjacent deposits of Palo Verde Mesa (Qpv) are unclear. Metzger et al. (1973, p. G22) considered deposits mapped as QTmw as Pliocene and Pleistocene age.

Although no fossil resources have been documented from this geologic unit within the Project area, it is considered highly likely to contain significant paleontological resources because of its age, subsurface lithologic composition, and proximity to the ancient Colorado River floodplain. Additionally, this unit is known to be equivalent in age to the nearby Arroyo Diablo Formation, which has a high paleontological resource potential. This geologic unit is a PFYC Classification 3a (BLM, 2012) and high paleontological sensitivity rating under SVP (2010) criteria.

Qpv - Alluvial deposits of Palo Verde Mesa (Pleistocene – approximately 2.58 mya to 11,000 years ago) consist of unconsolidated to weakly consolidated deposits of sand, pebbly sand, silt, and clay that are locally well exposed along the scarp of Palo Verde Mesa, which bounds the flood plain of the Colorado River. Scarp exposures, typically about 20 to 30 m thick, show an upper, slope-forming unit of tan to light-gray, sandy and pebbly alluvium and a lower, cliff-forming unit of light reddish-brown, interbedded fine-grained sand, silt, and clay. The upper unit extends westward from the top of the scarp to form the surface of Palo Verde Mesa, which is composed of unconsolidated sand and pebbly sand containing a mixture of local and river pebbles generally less than 4 cm in diameter. The subtle rather arbitrary contact between units Qpv and Qa6 is placed at the western limit of river pebbles present at the surface of Palo Verde Mesa. This contact approximately coincides with the slight break in slope that marks the distal margins of alluvial fans and valleys extending from the mountains to the west.

The alluvial deposits of the Palo Verde Mesa have been mapped as Qpv and dated as Pleistocene in age (1.2 Ma - 10,000 years B.P., Stone 2006). No fossil resources have been recorded from this geologic unit within the Project area; however, during a field survey for paleontological resources on the Palo Verde Mesa approximately 10 miles to the South-southwest of the proposed Project area, paleontologists discovered 100’s of Pleistocene fossils from paleosols within the alluvial Deposits (Qpv) of the Palo Verde Mesa (BrightSource, 2011; Stewart et al., 2012). Fossil birds, snakes, lizards, *Gopherus* sp. (desert tortoises), *Sylvilagus* (cottontail), *Lepus* (jackrabbit), rodents, *Taxidea* (badger), probable bighorn sheep, deer, *Equus* (horse), and *Mammuthus* (mammoth) were recovered from the paleosol. In addition, numerous tortoise fossil eggshells were recovered that yielded a radiocarbon date of 2 sigma (95% confidence interval) result of 13,620 to 13,790 calendar years before present. Regionally, numerous vertebrate localities have been reported from older Pleistocene alluvial sediments elsewhere in southern California, Arizona, and Sonora, Mexico. These older Pleistocene alluvial sediments have also been reported to yield significant fossils of extinct animals from the Ice Age (Jefferson, 1991), as well as fossil plants. Fossils vertebrates recovered from these Pleistocene sediments represent extinct taxa including mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, large and small horses, large and small camels, and bison (Jefferson, 1991).

Due to the relatively common occurrence of significant paleontological resources from the alluvial deposits of Palo Verde Mesa (Qpv), this geologic unit is considered to have a PFYC Classification 4a (high) (BLM 2012) and a high paleontological sensitivity under the SVP (2010) criteria.

Qa6 - Alluvial-fan and alluvial-valley deposits Unit 6 (Holocene - < 11,000 years ago) consist of angular to subangular gravel and sand derived from local mountain ranges that are mostly unconsolidated to weakly consolidated. Young alluvial-fan and alluvial-valley deposits are generally characterized by a lack of desert varnish and have local evidence of recent sediment transport. This unit consists mostly of sand, pebbly sand, and sandy pebble-gravel; forms gently sloping valley floors marginal to older, varnished alluvial-fan deposits.

Near the mountains, this unit includes relatively coarse, youthful, unvarnished gravel deposits of alluvial fans that grade downslope into the fine-grained deposits; some of these gravels form surfaces that may be inactive and equivalent to some deposits mapped elsewhere as Quaternary alluvium (Qa). Unit also includes deposits of many minor washes and channels (equivalent to Quaternary wash deposits (Qw)) too small to be mapped separately.

Holocene-age (< 11,000 years ago) Unit 6 is mapped by Stone (2006) as Qa6. Stone (2006) assigns this unit an age of 100 to 2,000 years B.P. No fossil resources are known to exist within this geologic unit within the Project area although fossil vertebrate localities have been recorded from similar deposits north of the Project area. Whereas Qa6 is considered too young to contain fossilized material and is considered to have a low paleontological sensitivity at least at the surface, it overlies and is poorly distinguished from older units that are considered as having high potential for containing significant fossil resources, therefore, the paleontological sensitivity increases to high paleontological sensitivity with depth. This geologic unit is a PFYC Classification 2 (BLM, 2012). Due to the lack of substantial fossil localities the Qa_6 geologic unit is considered to have a low paleontological sensitivity under SVP (1995, 2010) criteria.

Qw - Alluvium of modern washes (Holocene - < 11,000 years ago) consists of unconsolidated, angular to subangular gravel and sand derived from local mountain ranges. Boulder- and cobble-rich wash deposits proximal to mountain fronts grade downstream into pebbly and sandy distal deposits. Mapped areas include both large individual washes and closely spaced smaller washes. Wash deposits commonly grade laterally and downstream into young alluvial sand and gravel.

Quaternary alluvium of modern washes, mapped as Qw, occur in the eastern portion of the solar facility site in the McCoy Wash. Modern wash sediments are dated as Recent (Holocene) in age. Holocene-aged sediments often contain the remains of modern organisms, however they are considered too young to contain significant paleontological resources. Therefore, these sediments are determined to have a low paleontological sensitivity. However, paleontologically sensitive Pleistocene age alluvial and fluvial deposits may be encountered at depth. Thus, areas within the Project area mapped as Qw are considered to have a paleontological sensitivity ranging from low to high, increasing with depth. This

geologic unit is a PFYC Classification 2 (BLM, 2012) and low paleontological sensitivity under SVP (1995, 2010) criteria.

Qs - Eolian sand (Holocene - < 11,000 years ago) consists of unconsolidated sand dunes. Dunes are often partially stabilized by vegetation. Thin accumulations of eolian sand, not mapped separately, are present locally. The sand is derived from dry lake beds and the surrounding mountains. Dune formation has likely resulted from winds originating from the northwest (Brown, 1923).

The active sand dune deposits are too young to contain fossilized remains. However, older sand dune deposits, frequently stabilized with vegetation, may contain scientifically significant vertebrate specimens. Therefore, sand dune deposits within the Project area are assigned a low to high paleontological sensitivity, increasing with depth. This geologic unit has a PFYC Classification 2 (BLM, 2012). Due to the lack of substantial fossil localities, the Qs geologic unit is considered to have a low paleontological sensitivity under SVP (1995, 2010) criteria.

3.12.4 Applicable Best Management Practices

As part of the Project and Alternatives, the following applicable Best Management Practices (BMPs) would minimize the environmental impacts to cultural resources. The BMPs are detailed below (see also Table 2-4 in Chapter 2) and are further referenced (by number) within the impact discussion.

BMP-14 **Travel and traffic.** Vehicular traffic on site shall be confined to existing or designated travel routes and designated work areas. Access to the construction site and staging areas shall be limited to authorized vehicles and only through the designated roads. The extent of habitat disturbance during construction shall be reduced by keeping vehicles on access roads and minimizing foot and vehicle traffic through undisturbed areas. Travel shall be limited to stabilized roads. Road maintenance activities shall avoid blading existing forbs and grasses in ditches and adjacent to roads. Abandoned roads and roads no longer needed shall be subsoiled to increase infiltration and reduce soil compaction, then recontoured and revegetated.

Construction traffic shall avoid unpaved surfaces to the extent practical (to reduce the risk of compaction) and reduce speed to lessen fugitive dust emissions. On unpaved or unstabilized surfaces within the construction site, speed limits (e.g., 20 mph) shall be posted with visible signs and enforced to minimize airborne fugitive dust. Project vehicle speeds shall be limited in areas occupied by special-status animal species. Traffic shall stop to allow wildlife to cross roads. Shuttle vans or carpooling shall be used where feasible to reduce the amount of traffic on access roads. Workers shall be trained to comply with the speed limit, use good engineering practices, minimize the drop height of materials, and minimize the number and extent of disturbed areas. The Project developer shall enforce these requirements.

3.12.5 CEQA Significance Criteria

The CEQA Significance Criteria section describes the criteria used to determine which impacts should be considered potentially significant. Significance thresholds are based on criteria identified in Appendix G of the CEQA Guidelines (CCR, Title 14, Division 6, Chapter 3, Sections 1500-15387). A paleontological resources impact is considered significant if implementation of the proposed Project would:

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (see Impact PALEO-1).

As defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important.

Effects Found Not to Be Significant

No potentially significant effects have been eliminated from detailed consideration with regard to paleontological resources.

3.12.6 Impact Analysis

Impact PALEO-1: The Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. This impact would be *less than significant with mitigation incorporated.*

Construction

Construction activities that may affect paleontological resources include excavation, heavy equipment usage and movement, drilling, and trenching for utilities. Grading for access roads could also directly impact paleontological resources. Known sedimentary units of Late Pleistocene (approximately 126,000 to 11,000 years ago) (possibly Pliocene – 5.5 mya to 2.58 mya) to recent age are exposed at the solar facility site. Alluvial deposits of the Palo Verde Mesa (geologic unit Qpv), known to contain significant paleontological resources in other parts of Southern California in proximity to the project area, underlies the majority of the solar facility and is considered to be of high paleontological sensitivity under the SPV classification and has a PFYC Classification of 4a (high). There is a high potential for significant paleontological resources on the portion of the site underlain by Quaternary alluvium (this includes most areas of the PVMSP site and the gen-tie line between the solar facility and the Colorado River Substation). Alluvial Deposits of the McCoy Wash Area (Pliocene to Pleistocene – approximately 5.5 to 2.58 mya) (QTmw) underlie a small area in the northern portion of the site. Although no fossil resources have been documented from this geologic unit within the Project area, it is considered highly likely to contain significant paleontological resources because of its age, subsurface lithologic composition, and proximity to the ancient Colorado River floodplain. Additionally, the QTmw unit is known to be equivalent in age to the nearby Arroyo Diablo Formation, which has a high paleontological resource potential. This geologic unit is a PFYC Classification 3a (BLM, 2012) and high paleontological sensitivity rating under SVP (2010) criteria.

Grading and excavation during site preparation would have the potential to adversely impact significant non-renewable paleontological resources that may be present within the boundaries of the solar facility. Impacts before implementation of mitigation measures would be significant. Known and unknown sensitivity of some of the formations and paleontological resources on the solar facility necessitates the implementation of a Paleontological Resources Impact Mitigation Program (PRIMP) to minimize the impact of construction-related activities. With implementation of paleontological mitigation measures for known fossil sites and unknown subsurface fossil sites, potential adverse impacts on paleontological resources within the Project area during construction would be reduced to less than significant (refer to Mitigation Measure PALEO-1).

The gen-tie pole foundations would require excavations of 20 to 30 feet in depth and could also result in direct impacts to surficial and buried paleontologically sensitive geologic rock units, which have the potential to adversely impact significant non-renewable paleontological resources that may be present in or near subsurface locations. Impacts before implementation of mitigation measures would be significant. These potential impacts would be mitigated through implementation of the PRIMP (Mitigation Measure PALEO-1). With implementation of this measure, potential adverse impacts on paleontological resources within the Project area during construction would be reduced to less than significant.

Unauthorized collection of fossil materials, dislodging of fossils from their preserved environment, and/or physical damage of fossil specimens could also adversely affect paleontological resources. A pre-construction meeting to be held with key construction personnel to provide worker training regarding paleontological resource significance, visual identification, fossil discovery notification procedures, and applicable laws protecting paleontological resources is recommended (refer to Mitigation Measure PALEO-2).

Operation and Maintenance

During operation and maintenance of the solar facility, no major ground-disturbing activities or excavations would occur as part of routine maintenance. No impacts to paleontological resources are anticipated during operation and maintenance activities; however, should discoveries of paleontological resources be made during the operation of the PVMSP, Mitigation Measure PALEO-3 would ensure that paleontological resources would be handled appropriately.

Decommissioning

Decommissioning and restoration activities at the end of the Project life would be less likely to impact paleontological resources or unique geologic features, since it is anticipated that any such resources or features would be identified during construction and operation, and decommissioning would involve removal of installed facilities in ground that was previously disturbed during construction. Nevertheless, in order to avoid impacts to any resources that may not have been identified during construction and operation, decommissioning activities would be subject to the specified PRIMP, consistent with local, State, and federal laws and regulations applicable at the time of decommissioning as outlined in Mitigation Measure PALEO-3

Mitigation Measures

Mitigation Measures PALEO-1 through PALEO-3 would mitigate this impact.

Significance after Mitigation

Implementation of Mitigation Measures PALEO-1 through PALEO-3 would reduce Impact PALEO-1 to a less-than-significant level.

3.12.7 Cumulative Impacts

All projects in the cumulative scenario that would be located on the same geologic units within eastern Riverside County, including Holocene alluvium, Pleistocene alluvium, and dry desert washes, are considered within the geographic scope of analysis with respect to cumulative impacts on paleontological resources. This is because the ground disturbance caused by individual projects in the cumulative scenario, if not properly mitigated, could combine to cause a cumulative loss of scientific information through disturbance or destruction of potentially significant fossil resources. Since these geologic units are ubiquitous across the interior drainage basins of the desert region, all projects listed in Table 3-2 could cause impacts that may combine.

Paleontological resources are non-renewable; any loss or physical damage to these resources is permanent. They would be subject to direct impacts primarily during Project construction; however, impacts could occur during any ground-disturbing activities during operation and maintenance and decommissioning. Projects in the cumulative scenario could affect paleontological resources regardless of their timing. For purposes of the cumulative analysis, the temporal impact scope is the life of the Project.

Cumulative development in eastern Riverside County in the Palo Verde Mesa region of Southern California has the potential to directly or indirectly destroy paleontological resources, particularly during earth moving activities such as grading and excavation in areas containing Quaternary alluvium, which contain a high potential for significant paleontological resources. In addition, collection of fossil materials, dislodging of fossils from their preserved environment, and/or physical damage of fossil specimens could also adversely affect paleontological resources. Together these potential direct and indirect impacts associated with development in the cumulative scenario could result in a cumulatively significant impact to paleontological resources.

As discussed above, there is a potential for paleontological resources on the PVMSP solar facility site and gen-tie line to be impacted during ground disturbing activities associated with the proposed Project (Impact PALEO-1). However, with the implementation of Mitigation Measures PALEO-1 through PALEO-3, paleontological resource impacts would be reduced to a less than significant level. The proposed Project, as well as other development projects, would be required to provide mitigation for any impacts to paleontological resources in accordance with provisions of CEQA, as well as with regulations currently implemented by the County of Riverside and the proposed guidelines of the SVP. Therefore, the PVMSP's incremental contribution to cumulative impacts for paleontological resource would not be cumulatively considerable based on the degree of protection afforded by these requirements.

Mitigation Measures

Implement Mitigation Measures PALEO-1 through PALEO-3.

Significance after Mitigation

Cumulative impacts would be less than significant.

3.12.8 Mitigation Measures

PALEO-1 Prior to issuing any grading or excavation permits for activities within any area of the Project area, and prior to any Project-related ground-disturbing activities of that area, the Applicant shall implement procedures to monitor, avoid, and/or recover unique paleontological resources discovered during ground-disturbing activities. These procedures, the Paleontological Resources Monitoring and Mitigation Plan (PRMMP), shall be developed by a qualified vertebrate paleontologist and submitted for approval by the County of Riverside for private lands, and the BLM for BLM-managed lands. The PRMMP shall specify how mitigation measures Paleontology-1, Paleontology-2, and Paleontology-3 shall be implemented. This PRMMP shall be consistent with the provisions of CEQA, as well as with regulations currently implemented by the County of Riverside, the BLM and the proposed guidelines of the SVP. The PRMMP shall include, but not be limited to:

1. A requirement that, during excavations in areas underlain by geologic units identified as having a high paleontologic sensitivity under Society of Vertebrate Paleontology guidelines (or a PFYC rating of 3b or higher) and likely to contain paleontologic resources, a qualified vertebrate paleontologist, who is a Registered Professional Geologist, shall direct the paleontologic monitoring by a qualified paleontologic monitor. Areas of concern include all previously undisturbed paleontologic sensitive sediments of the fossiliferous Pleistocene alluvial deposits of the Palo Verde Mesa and alluvial deposits of the McCoy Wash area.
2. A requirement that paleontologic monitors be equipped to salvage fossils as unearthed to avoid construction delays and to remove samples of sediments likely to contain the remains of small fossil invertebrates and vertebrates. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens.
3. Identification of the processes for preparation of recovered specimens to a point of identification. If the paleontologic monitor determines that the resource is unique, it shall be prepared for permanent preservation, including washing of sediments to recover small invertebrates and vertebrates.
4. A requirement that a report be prepared documenting all finds with permanent retrievable paleontologic storage for curation of specimens. The paleontologist should have a written repository agreement in hand prior to the initiation of mitigation activities. Mitigation of adverse impacts to unique paleontologic resources is not complete until such curation into an established museum

repository has been fully completed and documented.

5. A requirement that a report be prepared documenting all finds with an appended itemized inventory of specimens. The report and inventory, when submitted to the County with respect to private lands, and to the BLM with respect to BLM-managed lands, along with confirmation of the curation of recovered unique paleontological specimens into an established, accredited museum repository, would signify completion of the PRMMP to mitigate impacts to paleontologic resources.

PALEO-2 Prior to issuance of the first grading permit, a worker training program shall be prepared and include information on the recognition of the types of paleontological resources that could be encountered within the Project area and referral of finds to the paleontologic monitor if they are found. This information shall be presented to Project construction personnel and Project operation and maintenance personnel by a qualified professional paleontologist.

PALEO-3 If construction or other Project personnel discover any potential fossils during construction, operation and maintenance, or decommissioning, the fossils shall be left undisturbed and the paleontological monitor shall be notified immediately and shall then take appropriate actions to evaluate the find in accordance with the PRMMP.

3.13 Population and Housing

This section presents information on population and housing conditions in the Project area; describes baseline conditions for population and housing within the proposed Project study area; describes population and housing characteristics for the City of Blythe and the broader eastern Riverside County and neighboring Imperial County, California and La Paz County, Arizona; and describes the regulatory framework in regards to population. This section also analyzes the effects of the PVMSP related to population and housing and describes the methods used to determine the impacts of the proposed Project. Information in this section is based on data obtained from national and regional sources, including the United States Census Bureau, California Department of Finance (DOF), and the California Employment Development Department (EDD).

3.13.1 Environmental Setting

The Project area (solar facility and gen-tie line) is located on approximately 3,400 acres of privately owned, undeveloped and agricultural lands in the Palo Verde Mesa area of eastern Riverside County approximately five miles northwest of the Blythe city center. There are no existing residences within the proposed Project area. The Imperial County border is approximately 14 miles south of the Project area, and the Colorado River and the Arizona border are approximately seven miles to the east of the Project area.

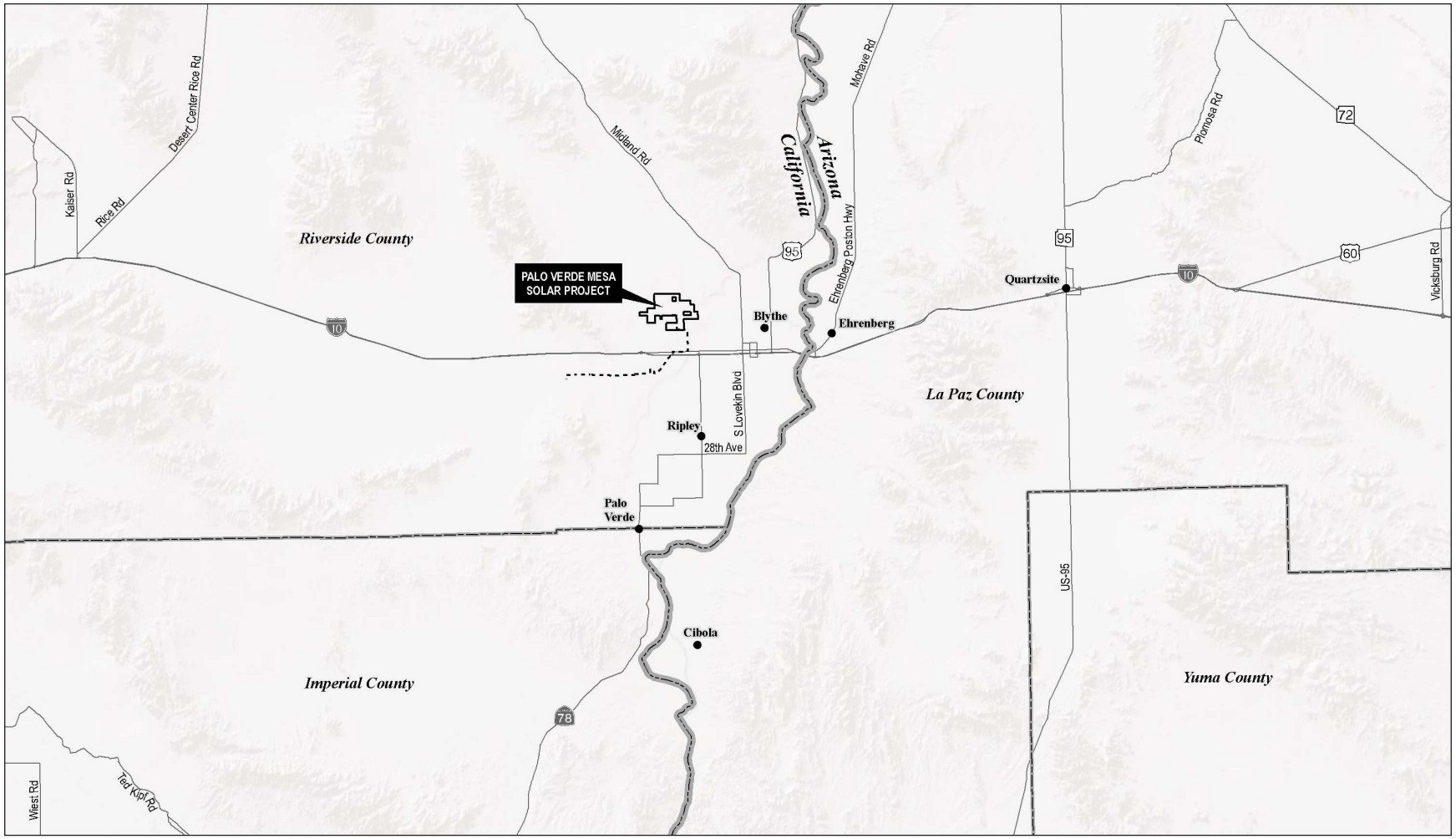
Population and Growth Projections

The Project area is located in Riverside County, which is the fourth most populous county in California. According to the California Department of Finance (DOF), the population in Riverside County grew from 2,189,641 in 2010 to 2,308,441 in 2015, which represents an annual growth rate of 1.06 percent. Riverside County grew at a faster rate than the other counties in the study area and California as a whole. For comparison, Imperial County grew 1.0 percent between 2010 and 2015 (California DOF, 2015). The study area for this analysis is shown on **Figure 3.13-1**.

Population growth in Riverside County is expected to increase slowly during the next four decades. The growth rate is projected to be 1.43 percent annually from 2015 to 2020 and fall to 1.45 percent from 2020 to 2030. The growth rate between 2030 and 2050 is projected to decline to 0.98 percent per year (California DOF, 2015). The California DOF projections developed from 2015 to 2020 show that Riverside County will grow at a higher annual rate (1.06 percent) than the rate of California (0.77 percent), and at a rate second only to Imperial County (1.0 percent).

The cities in Riverside County that experienced the largest annual growth between 2010 and 2015 are Indio (2.06 percent), Coachella (1.53 percent), La Quinta (1.16 percent) and Palm Desert (1.05 percent). The communities closest to the Project area grew at a much slower rate, such as the City of Blythe (-1.90 percent) and Palo Verde (- 3.8 percent) (California DOF, 2015).

Population estimates, future projections, and average annual growth rates by county and state are summarized in **Table 3.13-1**. **Table 3.13-2** illustrates the populations of the cities located near the



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.13-1

Population and Housing Study Area

study area. Populations from 2000 and 2010 are listed with an average annual growth number and rate for the communities within the study area.

TABLE 3.13-1
POPULATION ESTIMATES, PROJECTIONS, AND AVERAGE ANNUAL GROWTH RATES

Jurisdiction	2010	2015	Average Annual Growth Rate 2010-2015	2020 Projection	Average Annual Growth Rate 2015-2020	2030 Projection	Average Annual Growth Rate 2020-2030	Total 2050 Projection	Average Annual Growth Rate 2030-2050
California									
Riverside County	2,189,641	2,308,441	1.06%	2,478,059	1.43%	2,862,915	1.45%	3,480,980	0.98%
Imperial County	174,528	183,429	1.0%	211,973	2.93%	252,300	1.76%	314,346	1.11%
California	37,253,956	38,714,725	0.77%	40,619,346	0.97%	44,085,600	0.82%	49,779,362	0.61%
Arizona									
La Paz County	20,489		0.1%	25,487	2.9%	28,074	1.1%	30,909	1.0%
Arizona	6,392,017		3.6%	8,779,567	2.5%	10,347,543	1.8%	12,830,829	2.4%

SOURCE: California Department of Finance 2015; U.S. Census Bureau, 2010a

TABLE 3.13-2
STUDY AREA COMMUNITIES POPULATION GROWTH

Jurisdiction	2010	2015	Annual Growth Rate 2010-2015
Riverside County, California			
Riverside County, CA	2,194,933	2,323,527	1.15%
Ripley[(1),(2)]	N/A	692	---
Blythe[(2)]	20,817	18,909	-1.90%
Coachella	40,704	43,917	1.53%
Indio	76,036	84,201	2.06%
Indian Wells	4,958	5,194	0.93%
La Quinta	37,467	39,694	1.16%
Palm Desert	48,445	51,053	1.05%
Rancho Mirage	17,218	17,889	0.77%
Cathedral City	51,200	52,903	0.66%
Palm Springs	44,552	46,611	0.91%
Imperial County, California			
Imperial County, CA	174,528	183,429	1.0%
Palo Verde[(2)]	236	171	-3.8%
El Centro	42,598	44,847	1.03%
Calexico[(3)]	38,572	41,033	1.24%

TABLE 3.13-2
STUDY AREA COMMUNITIES POPULATION GROWTH

Jurisdiction	2010	2015	Annual Growth Rate 2010-2015
La Paz County, Arizona			
La Paz County, AZ	19,715	20,489	0.39%
Cibola[(2)]	163	250	5.3%
Ehrenberg[(2)]	1,357	1,470	0.01%
Quartzite[(2)]	3,354	3,677	0.96%

NOTES: Cities are shown (Riverside County and La Paz County) in order of their relative distance from the solar facility. Census 2000 counts include changes from the Count Question Resolution program. Data may not match data published in Census 2000 reports.

(1) Data for 2000 not available.
(2) These are the communities nearest the solar facility that represent the local level of the study area.
(3) This community was incorporated as part of the study area because the population as of 2010 was approximately 40,000.

SOURCES: California DOF 2016; Arizona DES 2011; U.S. Census 2000a; U.S. Census 2010a (Census 2000 counts include changes from the Count Question Resolution program. Data may not match data published in Census 2000 reports.); U.S. Census 2010b.

Housing

The current occupied and vacant housing estimates are presented for communities and counties within the study area in **Table 3.13-3**, 2014Study Area Housing Characteristics. Vacancy rates are high for the three counties, with a total of 135,972 vacant units. In 2014, Riverside County had 120,038 vacant units (15 percent), of which 63,909 (8 percent) are vacant and available and 50,538 (6 percent) are for seasonal, recreational, or occasional use. La Paz County in Arizona had 6,406 vacant units (40 percent); however, 5,318 units (33 percent) are for seasonal, recreational, or occasional use. Due to the current economic downturn, the communities closest to the Project area (Blythe, Ripley, Cibola, Ehrenberg, and Quartzite) had very high vacancy rates in2014, ranging from 17 to 56 percent, with a combined total of 3,835 vacant units.

TABLE 3.13-3
2014 STUDY AREA HOUSING CHARACTERISTICS

		Occupied Housing Units			Vacant Housing Units	
	Total Housing Units	Total	Owner Occupied	Renter Occupied	Total	For Seasonal, Recreational, or Occasional Use
Riverside County, CA	810,426	690,388 (85%)	453,356	237,032	120,038 (15%)	60,787 (50.6%)
Blythe CCD	6,913	5,591 (80%)	2,879	2,712	1,322 (19%)	408 (30.9%)
Blythe city	6,106	5,019 (82%)	2,675	2,344	1,087 (18%)	464 (42.7 %)
Ripley CDP	321	256 (80%)	57	199	65 (20%)	11 (16.9%)
Imperial County, CA	56,480	46,952 (83%)	26,135	20,817	9,528 (17%)	3,015 (31.6%)
Palo Verde CDP	125	17 (14%)	0	17	108 (86%)	97 (89.8%)

TABLE 3.13-3
2014 STUDY AREA HOUSING CHARACTERISTICS

		Occupied Housing Units			Vacant Housing Units	
	Total Housing Units	Total	Owner Occupied	Renter Occupied	Total	For Seasonal, Recreational, or Occasional Use
La Paz County, AZ	16,113	9,707 (60%)	7,485	2,222	6,406 (40%)	4,880 (76.2%)
Ehrenberg CDP	908	432 (47%)	231	201	476 (52%)	308 (64.7%)
Quartzsite town	3,570	2,281 (64%)	2,069	212	1,289 (36%)	1,006 (78.1 %)

NOTE: CCD is census county division; CDP is census designated place

SOURCES: U.S. Census, 2014.

In2013, the estimated median house or condo value for the City of Blythe was $134,267 and $373,100 for California (City Data, 2013a). For 2013, the median-gross rent in the City of Blythe was $776 (City Data, 2015a), while the median-gross rent for the County of Riverside was $1,016 and $1,120 for California (City Data, 2015b).

Temporary Housing Resources

Temporary housing in the Project area includes rental homes hotel and motel rooms, which are present throughout the study area and are typically concentrated in urban areas or near major transportation facilities. Other types of temporary housing units within the study area that may be used include campgrounds and recreational vehicle parks.

As shown in Table 3.13-3, 2014 Study Area Housing Characteristics, the vacancy rates for seasonal, recreational, or occasional use rates for Riverside County and La Paz County are high, 60,787 vacant units (50.6 percent) and 4,880 units (76.2 percent) respectively. With the additional of Imperial County's vacant seasonal, recreational, or occasional use units (3,015 units or 31.6 percent), there are a total of 68,682 vacant units. Within the local communities closest to the Project area, there are a total of 2,294 vacant seasonal, recreational, or occasional use units.

In the Project area, fourteen hotels and motels were identified with a total of 789 rooms. Twelve additional hotels and motels were identified in the Blythe, California with a total of at least 655 rooms (HotelGuides, 2015a). One hotel was identified in Ehrenberg (approximately 9 miles away) and one hotel in Parker, Arizona (approximately 42 miles away), they have 84 and 50 rooms respectively (HotelGuides, 2015b and c).

The BLM manages two long term visitor areas (LTVAs) that are located in the vicinity of the Project area: Midland LTVA and Mule Mountains LTVA. Both provide long-term camping opportunities. Two campgrounds are located within the boundaries of the Mule Mountains LTVA: Wiley's Well and Coon Hollow Campgrounds. Both are year-round facilities with campsites, picnic tables, grills, shade armadas, and handicapped-accessible vault toilets (BLM, 2011b). For information regarding BLM managed recreational facilities, please refer to Section 3.15, *Recreation*.

Labor Force and Employment

The 2014 Employment statistics for Riverside and Imperial Counties and the State of California are listed in **Table 3.13-4**.

TABLE 3.13-4
2014 EMPLOYMENT BY INDUSTRY SECTOR FOR RIVERSIDE AND IMPERIAL COUNTY AND STATE OF CALIFORNIA

	Riverside County Employment		Imperial County Employment		California Employment	
Industry Group	**Total**	**Percent of Total**	**Total**	**Percent of Total**	**Total**	**Percent of Total**
Agriculture	16,600	3.09%	68,500	50.07%	416,800	2.40%
Natural Resources, Mining, and Construction	37,000	6.9%	2,300	1.68%	704,200	4.05%
Manufacturing	40,600	7.55%	1,000	0.73%	1,269,400	7.31%
Transportation, Warehousing, and Utilities	31,400	5.84%	15,100	11.03%	2,857,600	16.48%
Wholesale Trade	23,900	4.45%	1,800	1.32%	710,200	4.09%
Retail Trade	89,900	16.73%	11,000	8.04%	630,000	3.63%
Information	6,200	1.15%	300	0.21%	452,800	2.61%
Financial Activities	20,800	3.87%	1,400	1.02%	782,700	4.51%
Professional and Business Services	63,900	11.89%	2,500	1.82%	2,423,300	13.98%
Educational and Health Services	90,000	16.75%	9,600	7.01%	2,403,900	13.86%
Leisure and Hospitality	84,100	15.65%	4,200	3.07%	1,752,000	10.1%
All Other Services	21,400	3.98%	900	0.65%	538,200	3.1%
Government	113,000	21.03%	18,200	13.3%	2,404,300	13.86
Total*	**537,100**	**100%**	**136,800**	**100%**	**17,345,400**	**100%**

NOTE: Data presented in this table is reflective of the total of this table There is a slight margin of error due to rounding.

SOURCE: California Employment Development Department (EDD) 2015.

The government is the largest employment sector for the State of California and Riverside and Imperial Counties 21.03, 13.3, 13.86 percent respectively. The construction sector contributed 37,000 employees (6.9 percent) for Riverside County and 2,300 employees (1.68 percent) for Imperial County, and 704,200 employees (4.05 percent) for California. Transportation, warehousing, and utilities sector contributed 31,400 employees (5.84 percent) in Riverside County and 15,100 employees (11.03 percent) in Imperial County, and 2,857,600 employees (16.48 percent) in California (EDD, 2015b).

For Arizona, **Table 3.13-5** lists the 2014 employment by industry sectors for La Paz County. The largest employment sector was the education and health services sector at 1,200 employees (17.6 percent). The government sector contributed 1,000 employees (15.7 percent). The construction sector contributed 300 employees (4.5 percent). Transportation, warehousing, and utilities contributed 300 employees (5.2 percent).

TABLE 3.13-5
2014 EMPLOYMENT BY INDUSTRY SECTORS FOR LA PAZ COUNTY, ARIZONA

	La Paz County Employment	
Industry Group	**Total**	**Percent of Total**
Agriculture	1,000	15.8%
Natural Resources, Mining, and Construction	300	4.5%
Manufacturing	200	2.8%
Transportation, Warehousing, and Utilities	300	5.2%
Wholesale Trade	200	2.3%
Retail Trade	800	11.3%
Information	0.0	0.3%
Financial Activities	300	4.3%
Professional and Business Services	200	3.4%
Educational and Health Services	1,200	17.6%
Arts, entertainment, food & recreation services	800	11.8%
All Other Services	300	5.1%
Government	1,000	15.7%
Total	**6,600**	**100%**

SOURCE: Arizona Commerce Authority, 2015.

Tables 3.13-6, **3.13-7**, and **3.13-8** present a ten-year employment projection of new jobs by industry for Riverside and Imperial Counties and the State of California from 2008 to 2018. Data for projected employment was not available for Arizona state or counties.

The highest number of new jobs projected for Riverside County is construction, at a 57.98 percent increase. Wholesale trade, professional and business services are projected to grow at 29.55 and 28.48 percent, respectively. The largest growth in California over this time period is anticipated to be in the educational and health services industry, at 26.8 percent, while transportation, warehousing, and utilities and leisure and hospitality are projected to grow by 20.75 and 27.38 percent, respectively.

TABLE 3.13-6
RIVERSIDE COUNTY INDUSTRY EMPLOYMENT PROJECTIONS

	Average Employment		Employment Change	
Industry	**2012**	**2022**	**Numerical**	**Percent**
Agriculture	15,000	14,500	-500	-3.34%
Natural Resources and Mining	1,200	1,600	400	33.3%
Construction	62,600	98,900	36,300	57.98%
Manufacturing	86,700	86,800	100	0.12%
Transportation and Warehousing, and Utilities [(1)]	288,200	348,000	59,800	20.75%
Wholesale Trade	52,100	67,500	15,400	29.55%
Retail Trade	162,300	192,400	30,100	18.54%
Information	11,500	11,800	300	2.6%
Financial Activities	40,800	46,900	6,100	14.95%
Professional and Business Services	127,100	163,300	36,200	28.48%
Educational and Health Services	167,200	212,000	44,800	26.80%
Leisure and Hospitality	129,300	164,700	35,400	27.38%
All Other Services	40,100	47,400	7,300	18.2%
Government	227,600	235,900	8,300	3.65%

[(1)] Industry sectors are grouped together in California EDD data sets.

SOURCE: California EDD 2015a.

TABLE 3.13-7
IMPERIAL COUNTY (EL CENTRO MSA) INDUSTRY EMPLOYMENT PROJECTIONS

	Average Employment		Employment Change	
Industry	**2012**	**2022**	**Numerical**	**Percent**
Agriculture	10,300	10,800	500	4.85%
Natural Resources and Mining, and Construction [(1)]	1,500	2,000	500	33.34%
Manufacturing	2,600	1,800	-800	-30.7%
Transportation and Warehousing, and Utilities [(1)]	11,200	13,000	1,800	16.7%
Wholesale Trade	1,700	2,000	300	17.65%
Retail Trade	7,700	8,900	1,200	15.58%
Information	400	400	0	0.0%
Financial Activities	1,300	1,500	200	15.39%
Professional and Business Services	2,700	3,500	800	29.63%
Educational and Health Services	6,800	9,100	2,300	33.82%
Leisure and Hospitality	3,600	4,300	700	19.45%
All Other Services	800	900	100	12.5%
Government	17,900	19,400	1,500	8.37%

[(1)] Industry sectors are grouped together in California EDD data sets.

SOURCE: California EDD 2015.

TABLE 3.13-8
CALIFORNIA INDUSTRY EMPLOYMENT PROJECTIONS

	Average Employment		Employment Change	
Industry	**2012**	**2022**	**Numerical**	**Percent**
Agriculture	399,100	443,300	44,200	11.07%
Natural Resources and Mining	30,500	35,000	5,500	18.03%
Construction	589,900	791,600	201,700	34.19%
Manufacturing	1,252,100	1,212,000	-40,100	-3.20%
Transportation and Warehousing, and Utilities [(1)]	2,735,300	3,132,700	397,400	14.52%
Wholesale Trade	675,700	784,000	108,300	16.02%
Retail Trade	1,572,300	1,794,800	222,500	14.15
Information	435,100	503,200	68,100	15.62%
Financial Activities	773,500	862,500	89,000	11.5%
Professional and Business Services	2,238,200	2,788,400	550,200	24.58%
Educational and Health Services	2,172,100	2,172,100	0	0.0%
Leisure and Hospitality	1,598,700	1,900,700	302,000	18.89%
All Other Services	504,700	555,100	50,400	9.98%
Government	2,376,300	2,473,400	97,100	4.08%

[(1)] Industry sectors are grouped together in California EDD data sets.

SOURCE: California EDD 2015.

3.13.2 Regulatory Setting

State

Title 14 California Code of Regulations (CCR) Section 15131

The regulations implementing CEQA state that economic or social factors of a project may be included in a CEQA document but shall not be treated as significant effects on the environment. However, economic or social effects of a project may be used to determine the significance of physical changes caused by the Project. Additionally, economic, social, and housing factors should be considered by public agencies together with technological and environmental factors in deciding whether changes in a project are feasible to reduce or avoid the significant effects on the environment.

Local

Riverside County General Plan

The Project would affect primarily unincorporated areas in Riverside County, including Palo Verde Valley. The Riverside County General Plan (Riverside County, 2015) was updated in 2015 to incorporate 19 detailed Area Plans, including one for Palo Verde Valley, which includes the Palo Verde Mesa area. However, neither the General Plan nor the Palo Verde Valley Area Plan contains any goals, policies or objectives related to population or housing that are relevant to the Project.

City of Blythe General Plan

The main local plans, policies, and goals for the City of Blythe's future community development are described within the city's *General Plan 2025* (City of Blythe, 2007). The City of Blythe is the principal urban center of Palo Verde Valley, and the plan emphasizes retaining the scale and character of existing neighborhoods and communities and providing guidelines for development of new neighborhoods. The City of Blythe Housing Element was published in November, 2004, as a separate document, and describes the housing needs and sets forth goals and implementation measures to address the identified housing needs (City of Blythe, 2004). Neither the City of Blythe General Plan nor the Housing Element contains any goals, policies or objectives related to population or housing that are relevant to the Project.

3.13.3 Methodology for Analysis

To determine whether the PVMSP would induce population growth, the availability of the local workforce and population in the region was analyzed. It was assumed that most construction workers would be drawn from communities located within Riverside County, which has the largest concentration of construction workers in proximity to the Project area. It is anticipated that the majority of the projected construction workforce would likely seek housing closer to the Project area (within an hour driving distance) or seek temporary housing (such as seasonal, recreational, or occasional use housing; long-term visitor areas; and hotel and motels) during the week and commute an average 40 miles round trip per day and commute home over the weekend.

3.13.4 Applicable Best Management Practices

The Applicant has proposed BMPs to reduce or avoid potential environmental impacts that could result from the Project; however, there are no BMPs to address potential impacts related to population and housing.

3.13.5 CEQA Significance Criteria

The criteria used to determine the significance of the Project-related population and housing impacts are based on the criteria identified in the CEQA Guidelines, Appendix G. Project-related impacts would be considered significant if they:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through the extension of roads or other infrastructure) (see Impact POP-1).
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere (see Effects Found Not to Be Significant).
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere (see Effects Found Not to Be Significant).

The following additional significance criteria from the County of Riverside Environmental Assessment form are used in this analysis. A project could have potentially significant impacts if it would:

- Create a demand for additional housing, particularly housing affordable to households earning 80% or less of the County's median income (see Effects Found Not to Be Significant).
- Affect a County Redevelopment Project Area (see Effects Found Not to Be Significant).
- Cumulatively exceed official regional or local population projections (see Section 3.13.7, *Cumulative Impacts*)

Effects Found Not to Be Significant

It has been determined that the PVMSP would not result in impacts related to the following significance criteria:

- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- Create a demand for additional housing, particularly housing affordable to households earning 80% or less of the County's median income.

The Project area and gen-tie corridor do not contain residential housing. Due to the temporary nature of Project construction activities, it is unlikely that construction workers would permanently relocate closer to the Project area with their families. Operation of the Project would require a nominal workforce and is not anticipated to increase the local population. Therefore, the Project would not create a demand for additional housing. Therefore, the proposed Project would not displace existing housing or necessitate the need for construction of replacement housing elsewhere. No impact would occur.

- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

The proposed Project does not contain a residential component, nor would it displace existing housing or people. No impact would occur.

- Affect a County Redevelopment Project Area.

The Project area and immediate vicinity would not be within a County Redevelopment Project Area. No impact would occur.

3.13.6 Impact Analysis

Impact POP-1: The Project could induce substantial population growth in an area, either directly or indirectly. This impact would be *less than significant.*

Construction

During the three-year construction period of the Project, it would temporarily increase population growth in the study area (Riverside and Imperial Counties, California and La Paz County, Arizona). Approximately 300-500 daily workers would be present on-site during peak construction. Riverside County has the largest concentration of construction workers close to the Project area. In2016, the County's unemployment rate averaged 5.7 percent while monthly

unemployment rate for the City of Blythe in April 2016 was 6.4 percent (EDD, 2016). Based on the employment by industry sectors shown in **Tables 3.13-4** and **3.13-5**, along with the most recent unemployment rates, it is anticipated that the majority of the construction, operation, and maintenance workforce would come from the existing labor pool in the Blythe/Palo Verde Valley region and the Desert Center region, with a smaller portion drawn from the Imperial Valley or Eastern Riverside County region. It is anticipated that many workers are also likely to engage in weekly commuting or otherwise temporarily relocate to the Blythe/Palo Verde Valley and Desert Center region areas while working at the Project area; a smaller portion of the workforce may be drawn from the Imperial Valley or Eastern Riverside County region.

The required construction and operational workforce of the Project would be found from within and around the study area. As illustrated in **Table 3.13-3**, 2010 Study Area Housing Characteristics, vacancy rates in the study area are high (15 to 86 percent). Within the Blythe area, there are approximately 2,054 vacant units, of which 794 units are for seasonal, recreational, or occasional use. With the addition of the other local communities within an hour commute, there are a total of 3,835 vacant units, of which 2,197 vacant units are for seasonal, recreational, or occasional use. In addition, there are also fourteen hotels and motels were identified with a total of 789 rooms within an hour drive to the Project area. Therefore, there are sufficient vacant housing units within the local communities to support the number of construction workers. The Project would not trigger the need for new housing. The Project would not induce substantial permanent growth to the regional population levels. The Project would not displace populations or existing housing, and it would not necessitate construction of replacement housing elsewhere.

The Project's impact on population growth in the area and demand for additional housing from construction would be less than significant.

Operation and Maintenance

Operation of the Project would require a nominal workforce, approximately 12 permanent full-time employees, and is not anticipated to increase the local population and would be accommodated by existing vacant housing units. In addition, the Project would not exceed the county's 2050 population projection of 3,480,980 people and would not induce substantial population growth or create a demand for additional housing. No impact would occur and no mitigation is required.

Decommissioning

Decommissioning of the PVMSP would require removal of the solar equipment and facilities and transportation of all components off site. Equipment used for decommissioning would generally be similar to that used for construction; however, it is anticipated that the overall activity necessary during decommissioning could be completed in one year and would be much less than that of construction. Consistent with the discussion of construction above, the Project's impact on population growth in the area and demand for additional housing from decommissioning would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

3.13.7 Cumulative Impacts

The geographic scope of the cumulative impacts analysis includes populated areas within a 1-hour worker commute distance of the project, which would extend as far west as Desert Center.

This would include all projects listed in **Table 3-2**. Although the 1-hour commute distance would also extend into Arizona, the low population in western Arizona would contribute minimally to the available labor pool in the geographic scope (242 total construction workers in La Paz County).

The timeframe refers the duration over which an impact would occur: short-term or long-term. Short-term impacts to population and housing would occur during the construction and decommissioning periods when overlapping construction schedules of multiple projects create a demand for workers that cannot be met by the local labor force.

Temporary cumulative population and housing impacts could occur when overlapping construction schedules of multiple projects create a demand for workers that cannot be met by the local labor force, thereby inducing in-migration of non-local labor and their households. Operational cumulative population and housing impacts could occur when multiple projects cause a substantial increase in population in an area that leads to demand for housing that exceeds available capacity.

Construction of the present and reasonably foreseeable future projects as shown in **Table 3-2** may overlap with construction of the PVMSP. Under the conservative assumption that peak construction periods overlap for all reasonably foreseeable projects there would be an increased demand for temporary housing units in the cumulative area. As discussed under *Section 3.13.1*, the vacancy rates for housing units are high (15% to 86%) and there are number of temporary housing options available as well. With the addition of local communities within an hour commute, there are a total of 3,835 vacant units, of which 2,197 vacant units are for seasonal, recreational, or occasional use. In addition, there are also fourteen hotels and motels were identified with a total of 789 rooms within an hour drive to the Project area. Available housing supply in the study area would far exceed conservative estimates of cumulative demand. There is an ample supply of housing units to accommodate workers drawn from outside the one-hour commute area. Therefore, cumulative impacts in the cumulative scenario on housing are projected to be less than significant. The PVMSP would contribute an additional peak month labor need of 500 workers. Given the availability of housing units, the incremental effects of the Project, when considered together with other past, present, and reasonably foreseeable future projects, would not be cumulatively considerable.

The PVMSP would have substantial beneficial socioeconomic impacts during construction, operation, maintenance, and decommissioning in terms of job creation, expenditures, and tax revenues. The positive incremental impacts of the Project, including job creation, expenditures, and tax revenues, would combine with the similar positive socioeconomic impacts from other present and reasonably foreseeable future projects in the Project vicinity (Table 3-2) to create even greater positive socioeconomic cumulative impacts to the local economy.

Operational labor needs of the reasonably foreseeable future projects and the Project are substantially smaller than construction labor needs. The proposed project would permanently employ only 12 full-time employees and would not be capable of contributing to a cumulatively considerable increase in population growth or demand for housing that exceeds available supply. In addition, the Project's employment needs would not be capable of cumulatively exceeding the county's 2050 population projection of 3,480,980 people.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

3.13.8 Mitigation Measures

No mitigation measures are required.

3.14 Public Services and Utilities

This section describes the existing public service and utilities that serve the proposed Project area, which includes schools; police and fire protection; parks and recreation; other public facilities such as hospitals; utilities; natural gas and electricity; water; wastewater; storm water and solid waste. In addition, existing laws and regulations relevant to public services and utilities are described. Public service providers serving the solar facility would be located within Riverside County and the City of Blythe; their service areas represent the local study area.

3.14.1 Environmental Setting

Public Services

Schools

The Project area is located within the Palo Verde Unified School District. Palo Verde Unified serves the Project site, Blythe and other remote areas of Riverside County and consists of three elementary schools, two middle schools, one high school, and a continuation high school. **Table 3.14-1** includes the schools and enrollment in Palo Verde Unified.

TABLE 3.14-1
SUMMARY OF SCHOOLS AND ENROLLMENT IN PALO VERDE UNIFIED SCHOOL DISTRICT, 2014-2015 SCHOOL YEAR

School Name	Community	Grades	Location	Students
Felix J. Appleby Elementary School	Blythe	K – 6	401 S. Third Street	665
Margaret White Elementary School	Blythe	K – 6	610 N. Broadway	651
Ruth Brown Elementary School	Blythe	K – 6	241 N. Seventh Street	623
Blythe Middle School	Blythe	7 – 8	825 N. Lovekin Blvd.	255
Palo Verde High School	Blythe	9 - 12	667 N. Lovekin Blvd.	875
Twin Palms Continuation	Blythe	9 - 12	811 West Chanslor Way	108

SOURCE: California Department of Education, 2016.

Police Protection

The City of Blythe Police Department (BPD) and the Riverside County Sheriff's Department (RCSD) provide law enforcement and public safety to the Project area. In addition, the California Highway Patrol (CHP) provides police services for state highways and roads within the vicinity of the Project area.

Blythe Police Department

The BPD station is located at 240 N. Spring Street in Blythe. Its service area includes all 27 square miles within city limits, divided into four patrol beats. The BPD employs 21 sworn officers including one chief and one lieutenant, giving it a service ratio of one sworn officer per 991 people. There are 10 non-sworn BPD personnel including 6 clerks/ dispatchers (City of Blythe, 2011). The BPD averages about 2.5 officers per shift to cover the service area. Although

the BPD does not maintain a standard for emergency response times, officers respond immediately to all emergency calls, and response times can range from 1 to 10 minutes depending on the location of the call (City of Blythe, 2007a).

Riverside County Sherriff's Department.

The Project site would be served by the RCSD Colorado River Station, located at 260 North Spring Street in Blythe. The communities served out of this station are Desert Center, Eagle Mountain, East Blythe, Hayfield, Midland, Nicholls Warm Springs, Ripley, and the Colorado River (RCSD, 2016). The RCSD provides law enforcement services to areas within its jurisdiction, including general community policing as well as the operation and maintenance of several correctional facilities. The RCSD has over 3,000 employees, including 1,330 sworn personnel, and operates nine sheriff sub-stations located throughout Riverside County to provide area-level community service to the unincorporated county and its 18 contract agencies (RCSD, 2016).

The RCSD has established criteria for its staffing requirements in unincorporated areas of the County: one sworn officer per 1,000 persons in the service population. The current unincorporated service population is 501,968, giving the department a current service ratio of one sworn officer per 380 persons (Riverside County, 2003).

California Highway Patrol

CHP is the primary law enforcement agency for state highways and roads. The nearest CHP station to the Project area (Blythe Station 660) is located at 430 S. Broadway in the City of Blythe. Services include law enforcement, traffic control, accident investigation, and the management of hazardous materials spill incidents (CHP, 2016).

Fire Protection

The City of Blythe Volunteer Fire Department and the Riverside County Fire Department (RCFD)/California Department of Forestry and Fire Protection (CAL FIRE) would provide fire protection services to the Project area.

Riverside County Fire Department

Fire protection services on lands under County jurisdiction in the vicinity of the Project are provided by the RCFD. The RCFD is one of the largest regional fire service organizations in California, with 95 fire stations and 17 battalions. Currently, the nearest fire station to the Project site is RCFD Station #45, located at the Blythe Air Base, 17280 W. Hobson Way in Blythe, which would be approximately 8 miles from the Project site (RCFD, 2016a). Services provided by the RCFD include fire suppression, emergency medical, minor rescue capabilities, and fire prevention services. The RCFD is staffed with approximately 1,100 career and 300 volunteer personnel, and currently serves approximately two million residents in an area of 7,000 square miles. This service area consists of all unincorporated areas in Riverside County, 21 contract cities, and the RCFD responds to calls in eight additional cities through mutual and automatic aid agreements (RCFD, 2016b). Under contract with the California Department of Forestry and Fire Protection (CAL FIRE), the RCFD is the Operational Area Coordinator for the California Fire and Rescue Mutual Aid System for all fire service jurisdictions in Riverside County. As such,

RCFD also has been given the authority to enter into several automatic aid agreements with other city jurisdictions, including the City of Blythe, as well as with adjacent National Forests (RCFD, 2016b; 2015).

The RCFD's service area is organized into eight divisions, and the equipment used by each division has the versatility to respond to both urban and wildland emergency conditions. The RCFD's fire suppression inventory includes structural engines, rural engines, brush engines, telesquirts, trucks, paramedic units, a helicopter, a hazardous materials unit, incident command units, water tenders, fire crew vehicles, mobile communications centers, breathing support units, lighting units, power supply units, fire dozers, mobile training vans, and mobile emergency feeding units (RCFD, 2016b). The RCFD determines station location and its resulting coverage primarily based on departmental policy for acceptable response times by land use category; response times are currently under review and not yet adopted for the "outlying" land use category in which the Project would be located. The RCFD's standard for fire station coverage in developed areas is one station per 2,000 dwelling units (Riverside County, 2003).

Blythe Volunteer Fire Department

The Blythe Volunteer Fire Department (BVFD) station is located at 201 North Commercial Street in Blythe, approximately 6 miles south of the Project site, and is staffed with a full-time fire marshal and 34 other members including a chief and assistant chief. The BVFD's equipment consists of one 50-foot telesquirt, four pumpers, one quick attack truck, one squad truck, and one command vehicle (City of Blythe, 2007a). The BVFD responds to all fires, traffic collisions, and calls for emergency medical services within city limits, while maintaining a mutual aid agreement with RCFD (BVFD, 2016).

Parks and Recreation

Park and other recreational facilities are discussed in in Section 3.15, *Recreation*.

Other Public Facilities

Health Services

The nearest hospital to the Project is Palo Verde Hospital, located at 250 North First Street in Blythe, approximately 7 miles east of the Project. The Palo Verde Hospital provides a wide array of medical services including intensive care services. However, it is not a trauma care center. The Desert Regional Medical Center is the closest trauma care center to the Project area and the only trauma center in the Coachella Valley. It is located at 1150 N Indian Canyon Drive, Palm Springs, approximately 105 miles west of the Project site. It is a Level II trauma center and provides a full range of specialists and services available 24 hours a day (Palo Verde Hospital, 2016).

The CHP's Border Division Air Operations Unit, located at the Thermal California Station, may respond to a traumatic injury occurring in the Project area that requires Medevac via helicopter. However, the CHP usually covers Medevac situations in the area surrounding Palm Springs and rarely in the Blythe area. There are a number of additional Medevac companies that service the Project area, including Merci Air Service, Reach Helicopter, Care Flight, and the CHP (Brightsource, 2011). If a serious emergency medical incident were to occur at the solar facility

site, the paramedic or first responder would call in the emergency. Based on rotation and proximity, a Medevac service would be dispatched to the solar facility site for evacuation to Desert Regional Medical Center in Palm Springs.

Libraries

The nearest library to the Project is the Palo Verde District Library, located 6 miles east of the Project at 125 W Chanslor Way, Blythe. In addition to providing book resources to the community, the library provides children's programs, public computer use and wifi (Palo Verde District Library, 2016).

Utilities

A variety of purveyors in Riverside County and the City of Blythe provide and maintain utility and service system facilities associated with natural gas, electricity, water, wastewater, storm water and solid waste.

Natural Gas

Southern California Gas Company (SCGC) provides gas service to the City of Blythe and surrounding Riverside County. SCGC's service territory encompasses approximately 20,000 square miles in diverse terrain throughout Central and Southern California, from Visalia to the Mexican border (SCGC, 2012).

Electricity

Southern California Edison (SCE) provides electric service to residences and businesses in the City of Blythe and surrounding area. Currently, SCE has transmission lines ranging from 500 kV to local distribution service lines of 12 kV. Three U.S. Bureau of Land Management (BLM) electric utility corridors pass through the Project site: BLM Corridor J passes through the solar facility site; and Corridors 30-52 and K pass through the proposed gen-tie line area (Figure 2-3). These corridors connect the Southern California market with generating plants located in the Blythe area and in the state of Arizona.

Water Supply

The Palo Verde Irrigation District (PVID) provides water primarily to agricultural users in the vicinity of the Project site and the Palo Verde Mesa Groundwater Basin is under the jurisdiction of the PVID. According to the Water Supply Assessment for the Project (Renewable Resources Group, Inc, 2012, water supply is derived from its Colorado River contract. Colorado River water, supplied through PVID canals, is lifted onto the mesa by private pumps to irrigate a portion of the acreage in the PVID, including the Project area. The remaining mesa irrigated acreage is irrigated from deep wells developed by the landowners. PVID holds the Priority 1 rights to California's share of Colorado River water, and a shared portion of the Priority 3 rights; their rights are not quantified by volume. Rather, its water rights are for irrigation and potable water needed to serve a total of 104,500 acres in the Palo Verde Valley, and an additional 16,000 acres on the Palo Verde Mesa. The City of Blythe is within the PVID boundary and is using the PVID water right to the Colorado River water. The PVID delivery report lists 3,911 acre feet of water used on 765 acres on the Palo Verde Mesa for 2010 where the Project is located (Renewable Resources Group, Inc, 2012; Appendix G of this EIR).

The Project's potable water supply would be provided by Riverside County Service Area #122. County Service Area 122 serves the unincorporated community of Mesa Verde. The community is located directly south of the lnterstate-10 and the Blythe Airport, west of the City of Blythe. The area is primarily a mobile home community consisting of approximately1,200 residents. The County Service Area is approximately 454 acres in size. Mesa Verde utilizes one well with a capacity of 750 gpm that pumps to a 0.25 mg storage tank and distribution system (Riverside County LAFCO, 2007).

Wastewater

No connection to a wastewater treatment provider exists or is proposed for the Project site. Septic tanks would be installed on the solar facility site to treat domestic sewage (non-hazardous liquid waste) from the O&M building. The Project would require a septic system permit from the Riverside County Department of Environmental Health Services prior to the installation of the septic system on the solar facility site.

Stormwater

As described in Section 3.9, *Hydrology and Water Quality* of this EIR, due to the low precipitation, surface water is generally minimal on the Palo Verde Mesa, limited to ephemeral and intermittent drainages with the exception of the Colorado River. The Project would be located near the eastern edge of the Palo Verde Mesa, above the Palo Verde Valley and west of the 100-year floodplain of the Colorado River. At present there are no stormwater facilities located on-site or in the immediate vicinity of the Project site. There are several washes terminating in or passing through the Project area, as shown in Figure 3.9-1, *Jurisdictional Waters.* Stormwater in the form of sheet flow typically flows overland toward the edge of the Mesa. In areas used for agriculture, flow may be diverted by earthen berms or irrigation ditches. Sheet flow eventually reaches the edge of the Mesa and flows into the canal and drain system of the Palo Verde Valley. This system eventually returns water to the Colorado River via the Outfall Drain, approximately 18 miles south of the Project. See Section 3.9, *Hydrology and Water Quality* of this EIR for more information.

Solid Waste

The Riverside County Department of Waste Resources (RCDWR) operates seven landfills, seven transfer stations, and a grinding facility within the County (RCDWR, 2016). The nearest landfills that serve the Project area include the Blythe Landfill at 1000 Midland Road, which is approximately 4 miles away, and Desert Center Landfill at 17991 Kaiser Road in Desert Center, which is approximately 40 miles away (Riverside County Department of Waste Resources, 2012). The City of Blythe contracts with Palo Verde Valley Disposal for waste and recycling needs (Blythe Public Works Department, 2012).

The Blythe Sanitary Landfill is currently permitted to receive a maximum of 6,034,148 CY total and 400 tons per day of refuse (CalRecycle, 2016a). It is estimated that the remaining disposal capacity will last until approximately 2047. As of March 31, 2015, the Blythe Landfill accepted 3,776.67 tons of landfilled material total for the year (RCDWR, 2015) and has a remaining capacity of approximately 4,159,388 Cubic Yards (CY) (CalRecycle, 2016a).

The Desert Center Landfill is currently permitted to receive a maximum of 115,341 CY total and 60 tons per day (CalRecycle, 2016b). As of March 31, 2015, the Desert Center Landfill accepted 0.38 tons of landfilled material for the year (RCDWR, 2015) and has a remaining capacity of 35,714 Cubic Yards (CalRecycle, 2016b).

3.14.2 Regulatory Setting

Federal

There are no federal regulations applicable to the Project with respect to public services and utilities.

State

California Government Code §§65995-65998 (amended by State Bill 50)

California Government Code Sections 65995 through 65998 limits fees, charges, dedications, or other requirements for the construction or reconstruction of school facilities. State Bill 50, adopted in 1998, imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development. In the case of industrial construction, the amount of fees and/or charges levied under Education Code Section 17620 with support of a Facilities Needs Assessment may not exceed $0.31 per square foot of covered, enclosed space. The payment of school mitigation impact fees authorized by SB 50 is deemed to provide "full and complete mitigation of impacts" on school facilities from the development of real property (Government Code §65995). SB 50 provides that a State or local agency may not deny or refuse to approve the planning, use, or development of real property on the basis of a developer's refusal to provide mitigation in amounts in excess of that established by SB 50.

California Government Code §4216.2 Notification of Underground Work

California Government Code §4216.2 requires excavators to contact a regional notification center at least two working days before, but not more than 14 calendar days prior to beginning excavation work. Notification is required to be completed for all areas that are known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the excavator. If practical, the excavator is required to delineate, with white paint or other acceptable markings, the area to be excavated. Additional restrictions are provided for locations within 10 feet of a high priority subsurface installation. Additional provisions are applicable to emergency situations.

Water Supply Planning

SB 610, enacted in 2001, and SB 267, enacted in 2011, require water supply and demand assessment planning to occur for proposed PV energy generation facilities that would occupy more than 40 acres of land and demand more than 75 AFY of water (Pub. Res. Code §21151.9; Water Code §10912(a)(5)). The required assessment is called a Water Supply Assessment (WSA). It considers any applicable Urban Water Management Plan (UWMP), whether the projected water supply for the next 20 years would meet the demand projected for the project along with the existing and planned future uses, identifies where the water would come from, and

then draws a conclusion as to whether there would be sufficient water available for the project. A WSA was conducted for the Project and is included in Appendix G to this Draft EIR.

14 CCR Division 7.3

Title 14 of the CCR provides minimum requirements for solid waste handling and disposal within the state. The regulations implement standards for the disposal and storage of solid waste, for nonhazardous wastes, and including solid wastes from industrial sources. Specific requirements are included for the handling and disposal of construction and demolition wastes, nonhazardous contaminated soil, waste tires, nonhazardous ash, and inert debris. Additional requirements are provided for transfer and processing facilities, siting and design standards, operation, and record keeping and reporting.

22 CCR Division 4.5

Title 22 of the CCR discusses an array of requirements with respect to the disposal and recycling of hazardous and universal wastes. Specific standards and requirements are included for the identification, collection, transport, disposal, and recycling of hazardous wastes. Additional standards are included for the collection, transport, disposal and recycling of universal wastes, where universal wastes are defined as those wastes identified in 22 CCR §66273.9, including batteries, electronic devices, mercury containing equipment, lamps, cathode ray tubes, and aerosol cans. Requirements include recycling, recovery, returning spent items to the manufacturer, or disposal at an appropriately permitted facility. 22 CCR Division 4.5 also provides restrictions and standards relevant to waste destination facilities, and provides authorization requirements for various waste handlers. Note that Title 22 includes California's Universal Waste Rule, as well as other additional waste handling and disposal requirements.

Integrated Waste Management Act

The Integrated Waste Management Act (Pub. Res. Code §40000 et seq.) requires cities and unincorporated portions of counties to divert a minimum of 50 percent of solid waste from landfills and to submit solid waste planning documentation to CalRecycle. The Act also establishes a comprehensive statewide system of permitting, inspections, and maintenance for solid waste facilities, and authorized local jurisdictions to impose fees based on the types and amounts of waste generated.

Local

Countywide Integrated Waste Management Plan

Riverside County's Countywide Integrated Waste Management Plan (CIWMP) (1996) was prepared in accordance with the Integrated Waste Management Act, described above, to demonstrate the County's compliance with the Act's solid waste planning requirements. The Summary Plan element of the CIWMP contains goals and policies, as well as a summary of integrated waste management issues faced by Riverside County and its cities. It summarizes the steps needed to meet and maintain the 50 percent diversion mandates, and is updated annually. The Countywide siting element is required to demonstrate that there are at least 15 years of remaining disposal capacity available to serve all jurisdictions within Riverside County. If the County's annual report to CalRecycle indicates that there is no longer at least 15 years of remaining disposal

capacity, the Countywide siting element must be updated to describe and identify the new or expanded solid waste disposal and transformation facilities necessary to provide a minimum of 15 years of combined permitted disposal capacity (14 Cal. Code Regs. §18755).

Riverside County Waste Management District

Riverside County has adopted the California Green Code (CALGREEN), 2010 edition, which includes mandatory construction and demolition waste recycling (Riverside County Department of Building and Safety, 2013). Projects that have the potential to generate construction and demolition waste are required to complete a Waste Recycling Plan (WRP) to identify the estimated quantity and location of recycling for construction and demolition waste resulting from the project. The goal of the WRP is to recycle, reuse, compost, and/or salvage a minimum of 50 percent by weight of the waste generated on site. The WRP must be approved by RCWMD prior to issuance of building permits. A Waste Recycling Report is required upon completion of construction that demonstrates the actual quantity of construction and demolition waste recycled and must be approved by the RCWMD prior to issuance of occupancy permits. WRP and reporting requirements would apply to both the construction and decommissioning phases of the Project.

Riverside County Ordinance No. 650.5

The Project proposes to construct, operate, maintain, and decommission a sanitary septic system on the site that would be designed and permitted in accordance with state and County regulations. Ordinance No. 650.5 regulates the discharge of sewage in unincorporated areas of the County, and places certain restrictions on the use of septic systems. Restrictions include the implementation of setbacks from septic tanks and associated leaching systems; the use of gravity flow systems unless prior approval is granted; construction such that solids larger than 1/8 inch are not passed into the leaching system while under 2 feet of hydrostatic head; installation of at least two access openings using risers of at least 20 inches in diameter each; risers must be watertight; dispersal system shall be increased in areas where rock fragments are prevalent; at least 5 feet of continuous soil shall be present between the bottom of the dispersal system and maximum groundwater levels. Approval of such a system requires submission of detailed plans to the County, as well as pre-site and construction inspections by the County.

Riverside County Board of Supervisors Resolution 91-474

Resolution 91-474 establishes standards governing the use of portable toilets, and applies requirements for disposal of associated liquid wastes. The Resolution provides specifications regarding the number of portable toilets required at a given site and the duration of use of such facilities on site. At minimum, weekly maintenance of portable toilets is required.

Riverside County Department of Environmental Health

The Riverside County Department of Environmental Health (RCDEH) implements various environmental health programs with the goal of protecting public health, public safety, and the environment. Relevant to the Project, the RCDEH regulates septic and other on-site wastewater treatment systems, regulates solid waste facilities and certain solid waste generators, provides

requirements for water supply wells, and provides requirements for various other activities within the County.

Riverside County Department of Environmental Health Technical Guidance Manual

The Technical Guidance Manual for Onsite Wastewater Treatment Systems (Manual) provides guidelines with respect to the design, engineering, and implementation of on-site wastewater treatment systems (OWTS) in Riverside County (RCDEH, 2009). The Manual provides guidelines for both conventional and alternative systems, including septic systems, and provides guidelines and requirements for soils testing, percolation testing, design requirements, leach field requirements, and other OWTS components and requirements. Design, installation, and operation of the proposed septic system would be required to comply with requirements provided in the Manual, including preparation of a soil percolation report performed in accordance with the Manual.

Riverside County General Plan

The Riverside County General Plan does not have an element that specifically addresses public services and utilities. Issues addressing storm water management and water supply are discussed in the Plan's Multipurpose Open Space Element and Issues addressing supporting infrastructure and services are discussed in the Plan's Land Use Element (LU) and include:

Policy OS 1.1: Balance consideration of water supply requirements between urban, agricultural, and environmental needs so that sufficient supply is available to meet each of these different demands.

Policy OS 2.2: Encourage the installation of water-conserving systems such as dry wells and graywater systems, where feasible, especially in new developments. The installation of cisterns or infiltrators shall also be encouraged to capture rainwater from roofs for irrigation in the dry season and flood control during heavy storms.

Policy OS 3.7: Where feasible, decrease stormwater runoff by reducing pavement in development areas, reducing dry weather urban runoff, and by incorporating "Low Impact Development," green infrastructure and other Best Management Practice design measures such as permeable parking bays and lots, use of less pavement, bio-filtration, and use of multi-functional open drainage systems, etc.

Land Use Element

Policy LU 5.1. Ensure that development does not exceed the ability to adequately provide supporting infrastructure and services, such as libraries, recreational facilities, educational and day care centers transportation systems, and fire/police/medical services.

Riverside County Development Impact Fee Ordinance No. 659

This ordinance creates development impact fees "in order to effectively implement the Riverside County Comprehensive General Plan, manage new residential, commercial, and industrial development, and address impacts caused by such development" by providing funds for the construction of new or expanded public service facilities and open space. The Project would be

located within a commercial zone as defined by this ordinance, and is located in the Palo Verde Valley planning area.

City of Blythe General Plan

The General Plan (2007a) addresses citywide concerns about growth and conservation, as well as safety. As the principal urban center in Palo Verde Valley, the plan emphasizes retaining the scale and character of existing neighborhoods.

Safety Element

Policy 8. Cooperate with the City of Blythe Fire Department, Riverside County Department and the California Department of Forestry in periodically evaluating services and service criteria to ensure that the City continues to receive adequate fire protection and prevention services.

Policy 9. Coordinate with the City's Traffic Safety Committee in assessing the impact of incremental increase in development and traffic congestion on fire hazards and emergency response time.

Policy 10. Require new developments to install fire protection equipment/system.

Policy 11. Require new developments to pay for increased fire protection as necessitated by a particular development.

Policy 12. Continue to support the Fire Department's coordination with surrounding departments to provide fire protection services.

Policy 13. Enforce policies to protect the public-s safety from urban and wild-land fires.

3.14.3 Methodology for Analysis

Public services and utilities in the area were evaluated to determine whether they are adequate to provide needed services during construction and operation of the PVMSP and to determine whether they would be adversely affected by the Project. Physical impacts to public services and utilities are usually associated with population in-migration and growth in an area, which increase the demand for a particular service, leading to the need for expanded or new facilities and services. The evaluation is based on professional judgment, an analysis of Project consistency with the goals and polices of the Riverside County General Plan, and the significance criteria established by Appendix G of the CEQA Guidelines.

3.14.4 Applicable Best Management Practices

As part of the Project, the following BMPs would minimize the environmental impacts associated with the proposed Project for public services and utilities. The BMPs are detailed below (see also Table 2-4 in *Chapter 2*) and are further referenced (by number) within the impact discussion.

BMP-1 **Drainage, Erosion, and Sedimentation Control Plan**. As part of the County of Riverside's Conditional Use Permit (CUP) requirements, a Drainage, Erosion, and Sedimentation Control Plan would be developed for the Project. The project shall implement Site design and Source control BMPs according to County Standards. The plan would address the drainage, erosion, and sediment control requirements to support all activities associated with construction, operation, maintenance, and decommissioning of the Project. For example, any stockpiles created would be kept on site, with an upslope barrier in place to divert runoff. Stockpiles would be sprayed with water, covered with tarpaulins, and/or treated with appropriate dust suppressants, especially in preparation for high wind or storm conditions. Certified weed-free straw bale barriers would be installed to control sediment in runoff water; straw bale barriers would be installed only where sediment-laden water can pond, thus allowing the sediment to settle out. Topsoil from the site would be stripped, stockpiled, and stabilized before excavating earth for facility construction. Topsoil would be segregated and spread on freshly disturbed areas to reduce color contrast and aid rapid revegetation. The Drainage, Erosion, and Sedimentation Control Plan shall also include site design and source control BMPs that minimize the potential for erosion and off-site sedimentation.

BMP-2 **Stormwater Pollution Prevention Plan.** In compliance with requirements of the National Pollutant Discharge Elimination System (NPDES) permit, a Stormwater Pollution Prevention Plan (SWPPP) would be developed and prepared for the Project to ensure that protection of water quality and soil resources is consistent with County and State regulations. The plan would identify site surface water runoff patterns and include measures that prevent excessive and unnatural soil deposition and erosion throughout and downslope of the Project area and Project-related construction areas, and would also include measures for non-stormwater discharge and waste management. The SWPPP would cover all activities associated with the construction of the Project, including clearing, grading, and other ground disturbance such as stockpiling or excavation erosion control. The plan would prevent off-site migration of contaminated stormwater, changes in pre-Project storm hydrographs, or increased soil erosion.

BMP-4 **Fire Management and Protection Plan.** As required by existing law (Title 8 California Code of Regulations [CCR] Section 3221), a Fire Management and Protection Plan would be developed in consultation with the Riverside County Fire Department to identify potential hazards and accident scenarios that would exist at the facility during construction, operation, maintenance, and decommissioning of the Project. The Plan would include the identification of the following: potential fire hazards and ignition sources; proper handling and storage of potential fire hazards; control of potential ignition sources; persons responsible for equipment and systems maintenance; location of portable fire extinguishers; automatic sprinkler fire suppression system; water-spray fire system; coordination with local fire department; and recordkeeping requirements.

BMP-11 **Project structures, gen-tie line, and building surfaces.** Project facilities would be sited to ensure that there is adequate space (i.e., setbacks of no less than 100 feet) between solar facilities and natural washes. These setbacks would preserve and maintain the natural washes' hydrological functions. The color and finish of Project structure and building surfaces that are visible to the public will be designed to ensure minimal visual intrusion, contrast, and glare. Grouped structures will be painted the same color to reduce visual complexity and color contrast. Solar panel backs will be color-treated to reduce visual contrast with the landscape setting. Materials, coatings, or paints having little or no reflectivity will be used wherever possible.

BMP-20 **Waste Recycling Plan**. Prior to issuance of a grading and building permit, A Waster Recycling Plan shall be submitted to the Riverside County Department of Waste Resources. for approval. The plan shall identify: materials (i.e., cardboard, concrete, asphalt, wood, etc.) that will be generated by construction and development; projected amounts of materials; measures/methods that will be taken to recycle, reuse, and/or reduce the amount of materials; the facilities and/or haulers; and the target recycling or reduction rate. During Project construction, the construction site shall have, at a minimum, two bins: one for waste disposal and the other for recycling of construction and demolition materials. An accurate record keeping system of recycling construction and demolition recyclable materials and solid waste disposal shall also be established.

Site design and Source Control BMPs shall be implemented according to County Standards**.**

3.14.5 CEQA Significance Criteria

The criteria used to determine the significance of the Project-related public services and utilities impacts are based on the criteria identified in the CEQA Guidelines, Appendix G. Project-related impacts would be considered significant if they:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities; and/or result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services, which include (see Impact PSU-1):
  - Fire Protection;
  - Police Protection;
  - Schools;
  - Parks; and
  - Other Public Facilities.
- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (see Effects Found To Be Not Significant);

- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (see Impact PSU-2);
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (see Effects Found To Be Not Significant);
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed (see Impact PSU-3);
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments (see Effects Found To Be Not Significant);
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs (see Impact PSU-4); or
- Comply with federal, state, and local statutes and regulations related to solid waste (See Impact PSU-4).

The following additional significance criteria from the County of Riverside Environmental Assessment Form are used in the analysis. A project could have potentially significant impacts if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities; and/or result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services, which include (See Impact PSU-1):
  - Sheriff Services;
  - Libraries; or
  - Health Services.
- Not comply with federal, state and local statues and regulations related to solid wastes including the County Integrated Waste Management Plan (CIWMP) (See Impact PSU-4);
- Impact the following facilities requiring or resulting in the construction of new facilities or the expansion of existing facilities; the construction of which could cause significant environmental effects (See Effects Found Not Be Significant):
  - Electricity;
  - Natural gas;
  - Communications systems;
  - Storm water drainage;

  - Street lighting;
  - Maintenance of public facilities, including roads; or
  - Other governmental services.
- Conflict with any adopted energy conservation plans.

Effects Found Not to Be Significant

It has been determined that the PVMSP would not result in impacts related to the following significance criteria:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

The O&M buildings would generate a minimum volume of wastewater as result of daily activities. Wastewater would be treated via a septic system permitted through the Riverside County Department of Environmental Health Services, and would be in compliance with Department requirements. The Project would not require construction or expansion of public water treatment and/or service systems. Restroom facilities during Project construction and decommissioning would be provided by portable units to be serviced by licensed providers. The Project would not exceed wastewater treatment requirements during construction, operation, maintenance, and decommissioning because the Project would not be connected to a public sewer system. No impact would occur with respect to any of these considerations.

- Result in construction of new facilities or the expansion of the existing following facilities:
  - Electricity;
  - Natural gas;
  - Communications systems;
  - Storm water drainage;
  - Street lighting;
  - Maintenance of public facilities, including roads; or
  - Other governmental services.

The Project would generate renewable energy that would have an overall beneficial effect on the electricity supply. The Project would not use any sources of natural gas. The Project would not require expansion of existing or new street lighting, storm water drainage (see Section 3.9,

Hydrology and Water Quality) or other public facilities including roads (see Section 3.16, *Traffic and Transportation*).Therefore there would be no impact relating to the types of facilities listed above.

- Conflict with any adopted energy conservation plans.

As discussed in Section 4.4, *Energy Consumption*, the Project would produce enough energy to power approximately 180,000 households and progress the goals of the California Renewable Portfolio Standard (RPS) and other similar renewable programs in the state. The Project operation would have an overall beneficial effect on the electricity supply to the grid and would help decrease reliance on coal power. Therefore, the Project would not conflict with adopted energy conservation plans. No impact would occur.

3.14.6 Impact Analysis

Public Services

Impact PSU-1: The Project could result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities; and/or result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for public services. This impact would be *less than significant.*

Construction

Construction is anticipated to occur over a three-year period, of which peak construction would occur over a three-year period and require a workforce of approximately 300 to 500 daily workers present throughout the Project area. Solar facility construction activities could temporarily affect the demand for public services due to the increased population and traffic associated with construction worker vehicle trips in the area; that of which could create the need for expansion of or additional governmental facilities. However, as discussed in Section 3.13, *Population and Housing*, it is anticipated that the construction workforce would be drawn from communities within Riverside County, with a smaller portion drawn from the Imperial Valley and La Paz Counties and would not induce substantial permanent growth to the regional population levels.

Schools

As described above and in Section 3.13, *Population and Housing*, there are sufficient vacant housing units within the local communities to support the number of construction workers and the Project would not trigger the need for new housing. The Project would not induce substantial permanent growth to the regional population levels. The Project would not displace populations or existing housing, and it would not necessitate construction of replacement housing elsewhere. Therefore, the temporary addition of construction workers to the Project area's population is not anticipated to increase school enrollment sufficiently to require new schools to be constructed or existing schools to be physically altered (remodeled) to allow for a Project-related increase in enrollment, where the construction or remodeling could result in adverse environmental impacts. Impacts would be less than significant and no mitigation would be required.

Police and Sherriff Protection Services

The temporary increase of construction workers could increase demands on police services. However, during construction, on-site security would include trained, uniformed, and unarmed personnel whose primary responsibility would be to control ingress and egress of personnel and vehicles, perform fire and security watch during off hours, and perform security badge administration, all of which would minimize the potential need for the City of assistance from the Blythe Police Department and the Riverside County Sheriff's Department (RCSD) assistance. As discussed above, the construction workforce for the Project would be hired from within the available regional workforce.

Because Project construction is not anticipated to permanently increase the local population, no new or expanded law enforcement facilities or increased staff levels within the Project regional or local study area would be required. An addition of up to 500 construction personnel would alter the current service ratio of one sworn officer per 380 persons to 880 persons, but would not exceed the RCSD's service ratio goal of one sworn officer per 991 persons. Construction of the PVMSP would generate truck and employee traffic along haul routes and at the Project area, which could temporarily increase the accident potential in these areas over the approximate three-year construction period. However, the additional volume of traffic associated with workers commuting to the sites during construction would be temporary and it is anticipated that personnel and equipment from the County, City and the California Highway Patrol (CHP) would be sufficient to respond to incidents in the Project area. Project construction is not expected to adversely affect the CHP's ability to patrol the highways. Therefore, Project construction would not result in the need for new or physically altered police or sheriff protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives. Impacts would be less than significant and no mitigation would be required.

Fire Protection

Approximately 300 to 500 daily workers would be present on site during the three-year construction period. After the construction phase, the O&M buildings would serve as the Project's facilities for approximately 12 permanent full-time employees. The Project area is not within a Cal Fire-designated area of very high or high fire hazard, as delineated by the Palo Verde Valley Area Plan Figure 10, *Wildfire Susceptibility* (Riverside County, 2011). In addition, no residential structures exist on site or would be constructed under the PVMSP.

During construction, there is the potential for both small fires and major structural fires. Electrical sparks, combustion of fuel oil, hydraulic fluid, mineral oil, or insulating fluid at substations, or flammable liquids, explosions, and over-heated equipment may cause small fires. The Project would result in an increase in demand for fire protection services over existing levels during construction. The proposed Project would not cause population growth sufficient to generate a need for new or expanded fire protection facilities. Impacts would be less than significant and no mitigation would be required.

The fire prevention and protection measures described in BMP-4, a Fire Management and Protection Plan would be developed in consultation with the RCFD to identify potential hazards and accident scenarios that would exist at the facility during construction. The Fire Safety Plan

would decrease the risk of fires and include fire response measures that employees would implement before emergency responders arrive on-site. Specifically, the measure requires the Applicant to coordinate with the RCFD to create a training component for emergency first responders to prepare for specialized emergency incidents that may occur at the Project site. The Project's impact to the RCFD's ability to maintain acceptable service ratios, response times, or other performance objectives relating to technical rescue services would be less than significant.

Increases in long-term demand for fire protection services typically are associated with substantial increases in population. Once operational, up to 12 permanent staff could be on the site at any one time for ongoing facility maintenance and repairs. These 12 operation personnel would not contribute to a significant population increase, resulting in an increase to the demand for fire protection services, or require new or altered facilities. Additionally, the proposed Project would include emergency access and other safety features and plans for fire protection, and impacts would be less than significant.

Pursuant to Riverside County Ordinance 659, the Applicant would be required to pay a development impact fee for fire services "in order for the County to construct or acquire the needed facilities" (Riverside County, 2006). If facilities are constructed or acquired using funds provided by the Project or if new or physically altered fire protection facilities are paid for with the money, the construction of such facilities could cause significant environmental impacts indirectly attributable to the Project. However, the location, size, nature, and other details of such facilities, if needed, or the environmental effects their construction or alternation are not yet known. Because too little is known about whether, and if so what, facilities would be constructed with Project-related fees, any impact analysis and attempt to reach conclusions about the environmental effects they could cause would be speculative.

Parks and Recreation

As discussed above, the required construction workforce of the Project would be hired from the available regional workforce. There would be temporary in-migration that would increase the local population during construction; however, it would not warrant the need for new or expanded parks and recreational facilities within the Project regional or local study area. Less than significant impacts would occur and no mitigation is required. Park and other recreational facilities are discussed in detail in Section 3.15, *Recreation*.

Other Public Facilities

Health Services

Construction of the PVMSP would, result in an average of approximately 300 daily construction workers. In the event of an on-site accident during Project construction, the RCFD would provide first responder emergency medical care. The nearest RCFD fire stations are staffed full-time, 24 hours, 7 days a week, with a minimum three-person crew, including paramedics. Once a patient is transported, a number of local area hospitals are available to provide emergency medical care. While a high number of construction employees would be located on site, local area emergency medical facilities are expected to adequately handle any worksite accidents requiring their attention. Minor injuries could be treated at Palo Verde Hospital in Blythe. Injuries resulting in significant trauma would be treated at the Desert Regional Medical Center in Palm Springs.

Project construction would not require new or physically altered hospital facilities or personnel or result in the increase in emergency responder staff levels within the Project regional or local study area. Impacts would be less than significant and no mitigation would be required.

Libraries

Consistent with the impacts previously discussed for other public facilities, although Project construction would temporarily increase the number of people with the Palo Verde Valley, it would not substantially increase the population and would not require new or expanded library facilities within the area. Impacts would be less than significant.

Operation and Maintenance

Schools

The Palo Verde Unified School District is not at enrollment capacity and, according to the school district, enrollment is decreasing (Bilek, 2011). Operation of the PVMSP is expected to employ approximately 12 full-time employees. These employees are expected to be drawn from the local labor force. The proposed Project would not result in the need for construction of new school facilities and would not, therefore, result in physical impacts associated with the provision of new or physically altered school facilities. Potential impacts to schools would be less than significant and no mitigation is required.

Police Protection

Once operational, the Project area would include security fencing, controlled access gates, and security lighting, which would minimize the potential need for the City of Blythe Police Department's and the RCSD's assistance. As previously described, operation and maintenance of the PVMSP would not increase the local population or require the need for new or expanded law enforcement facilities or staff levels within the Project regional or local study areas. The number of permanent full-time employees (12) would not adversely affect the CHP's ability to patrol the highways. Impacts would be less than significant and no mitigation would be required.

Fire Protection

The proposed Project would not include residential development within the Project area; therefore, the PVMSP would not induce substantial population growth in the Project area or in the surrounding area. Because service demand is tied primarily to population, a community's requirements for fire protection facilities are based on the number of residents and workers in the primary service area.

During operation and maintenance of the proposed Project, there is the potential for both small fires and major structural fires. After the construction phase, the O&M buildings would serve as the Project's facilities for approximately 12 permanent full-time employees. The O&M buildings would include their own emergency power, fire suppression, and potable water systems. As part of the Project, implementation of BMP-4, Fire Management and Protection Plan, would ensure that emergency fire precautions are employed during Project operation and maintenance. The PVMSP would include emergency access and other safety features and plans for fire protection. Implementation of BMP-4, Fire Management and Protection Plan, would ensure that notification procedures and emergency fire precautions are employed so that operation of the proposed

Project does not inhibit the ability of fire protection or emergency medical personnel to respond to the Project area and vicinity. Therefore, operation- and maintenance-related impacts regarding fire protection services are considered to be less than significant and no mitigation is required.

Parks and Recreation

During operation and maintenance of the PVMSP, no population in-migration would occur that would increase the local population or would require the need for new or physically altered parks and recreational facilities or staff levels within the Project regional or local study area. Additionally, the proposed Project would not eliminate any lands designated for recreational use. No physical impacts associated with the provision of parks and recreational facilities would occur from Project operation and maintenance, and no mitigation is required. Park and other recreational facilities are discussed in detail in Section 3.15, *Recreation*.

Other Public Facilities

Health Services

The PVMSP is expected to require 12 permanent full-time employees. The available emergency medical and hospital facilities serving the Project area and local study area are expected to adequately handle the permanent addition of 12 full-time staff and the operation- and maintenance-related demands of the Project. Operation and maintenance of the Project would not create significant adverse impacts on medical resources in the area because minor injuries could be treated at Palo Verde Hospital in Blythe. Injuries resulting in significant trauma would be treated at the Desert Regional Medical Center in Palm Springs or by Medevac. Operation and maintenance of the Project are not expected to significantly impact the existing service levels, response times, or capacities of the hospitals serving the Project. Impacts would be less than significant.

Libraries

Consistent with the impacts previously discussed for construction, the Project would not include a residential component that would substantially increase the population, and would not require new or expanded library facilities or personnel within the area. Impacts would be less than significant.

Decommissioning

Decommissioning of the proposed Project would require removal of the solar equipment and facilities and transportation of all components off site. Equipment used and activities needed for decommissioning would generally be similar to those used for construction; however, it is anticipated that the overall activity necessary during decommissioning could be completed in one year, would be much less than that of construction, and would not result in an increased need for fire and police protection services, other public services. As discussed above, no in-migration would occur that would trigger the need for new or physically altered governmental facilities, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services. Impacts would be less than significant and no mitigation would be required.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

The impact would be less than significant.

Utilities and Services Systems

Impact PSU-2: The Project could result in the construction of new storm water drainage facilities or expansion of existing facilities, which could cause significant environmental effects. This impact would be *less than significant.*

Construction of the Project would require ground-disturbing activities, including solar array installation, substation and O&M building construction, and construction of access roads. Grading could alter naturally occurring drainage patterns and result in soil erosion, sedimentation, long-term siltation, and increased stormwater runoff**.** The ephemeral washes that cross portions of the solar facility site and gen-tie line may be affected by construction, operation, maintenance, and decommissioning of the proposed Project. Project facilities and solar panels would be designed to provide adequate setbacks between most solar facility components (solar panels, gen-tie lines, substations, access roads, and O&M buildings) and ephemeral washes. These setbacks would preserve and maintain the hydrological functions of these washes to the extent possible. However, an existing access road (Buck Road) that crosses the Southern Wash at a low-water crossing would be utilized during construction and decommissioning, potentially affecting the stream bed and bank. Erosion and other potential alteration of the bed and bank would be avoided or minimized through implementation of protective measures (e.g., use of geomats in wetted or soft portions of the stream) as described in BMP-1 Drainage, Erosion, and Sedimentation Control Plan, and BMP-2 Stormwater Pollution Prevention Plan. With implementation of BMP-11, Project facilities would be sited to ensure that there is adequate space (i.e., setbacks of no less than 100 feet) between solar facilities and natural washes. These setbacks are the only proposed stormwater drainage facilities, which would preserve and maintain the natural washes' hydrological functions. It is not anticipated that these proposed stormwater drainage facilities would result in significant adverse effects to the environment. Impacts would be less than significant and no mitigation would be required.

Mitigation Measures

No mitigation measures are required

Significance after Mitigation

This impact would be less than significant.

Impact PSU-3: The Project could have insufficient water supplies available to serve the project from existing entitlements and resources. This impact would be *less than significant.*

The current source of water for agriculture is provided by the Palo Verde Irrigation District (PVID) from its Colorado River contract. During the 36-month (three-year) construction period for the Project, approximately 1,500 acre feet (ac-ft) of water (500 ac-ft/yr) would be required. Construction water would be used for dust suppression, concrete manufacturing, fire safety, and

the implementation of BMPs and mitigation measures. In addition, construction of the new substations and operation and maintenance buildings would introduce a new but small area of impermeable surfaces that would potentially interfere with groundwater recharge within the groundwater basin.

During operation, the Project would require a limited amount of water for washing of the solar panels, fire water supply, vegetation maintenance, and supply for the operations and maintenance buildings. Approximately 302 ac-ft/yr of water would be used for operation and maintenance activities, including twice-yearly cleaning of the solar arrays. All of this demand would be met with non-potable supplies, except for the operations and maintenance building, which would require potable water. Non-potable water for the Project would be provided from existing PVID surface water entitlements that support the agricultural operations currently on the site. A Water Supply Assessment conducted for the Project (and contained in Appendix G) determined that adequate water supplies exist to serve the Project's non-potable water demand, whether the Project is served through surface diversions (as is currently done for the agricultural operations) or served through groundwater extraction, which is not anticipated.

The Project's potable water supply would be provided by Riverside County Service Area #122. On October 26, 2012, Riverside County issued a Will Serve letter stating that Riverside County Service Area #122 will be able to serve the proposed Project operations and maintenance buildings with potable water to support the Project (see Appendix G).

Additionally, the current agricultural water use is significantly higher than the proposed water needs for construction, operation, maintenance, and decommissioning (see Section 4.3.9, *Hydrology and Water Quality*). Thus, the proposed Project would reduce water demand when compared to existing conditions. Impacts would be less than significant and no mitigation is required.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

The impact would be less than significant.

Impact PSU-4: The Project could be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs and would comply with federal, state, and local statutes and regulations related to solid waste. This impact would be *less than significant.*

The closest landfill to the Project area is the Blythe Sanitary Landfill. According to the California Department of Resources Recycling and Recovery (CalRecycle), the remaining capacity of the Blythe Sanitary Landfill is 4,159,388 cubic yards (cy) and is estimated to operate until year 2047 (CalRecycle, 2016a).

The Project would generate solid waste during construction, operation, maintenance, and decommissioning. The Project site consists of flat topography. All required cut and fill soils

associated with construction-related grading activities is anticipated to be balanced onsite and would not require disposal at a landfill. It is anticipated that the 450-MW Proposed Project would generate up to approximately 25 cubic yards of solid waste per week during construction (see Appendix L for calculation details). Solid waste for the Project would include recyclable materials such as metals and plastics, as well as various construction materials and worker-generated waste that would include a combination of recyclable and non-recyclable materials. During operations and maintenance activities, non-hazardous solid waste would be limited to office uses associated with the proposed operations and maintenance building. The Proposed Project is estimated to generate up to approximately 0.6 cubic yard of non-hazardous solid waste per week (ESA 2016). Non-hazardous waste generated during Project operations would include paper, aluminum, food and plastic. To the extent practicable, waste generated by the Project would be recycled. The non-recyclable, non-hazardous solid waste materials would be disposed at a landfill in accordance with state and local regulations, including those outlined in the County Integrated Waste Management Plan.

The Blythe landfill, which is located closest to the Project area, has sufficient capacity to continue to provide solid waste disposal through 2047. Therefore, sufficient capacity is anticipated to be available for waste disposal. The Project would comply with applicable federal, State, and local regulations related to solid waste. In addition, implementation of a Waste Recycling Plan (BMP-20) would limit the amount of waste disposed of at the landfill. Impacts related to solid waste would be less than significant and no mitigation would be required.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

The impact would be less than significant.

3.14.7 Cumulative Impacts

The geographic scope of the cumulative public services and utilities analysis include the service areas of each of the providers serving the PVMSP.

The Project could contribute to potential cumulative effects from the initiation of on-site activities for construction to the conclusion of such activities following decommissioning. The temporal scope refers to the duration over which an impact would occur: short-term or long-term. The potential for short-term impacts on public services during construction and decommissioning would be greater than the potential for long-term impacts during operations and maintenance. For example, the influx of construction workers and activity in the Project area during the short-term construction and decommissioning periods would pose a greater need for fire services than during the routine day-to-day operations period. However, the potential need for law enforcement services would be more consistent throughout the entire Project due to the sites' potential for burglary or vandalism at any time.

Construction

Ongoing contributions of past projects are reflected in the levels of existing demand on public services and utilities as described in Section 3.14.1, Environmental Setting. Together with these ongoing impacts of past projects, the incremental impacts of the Project could combine with the incremental impacts of projects listed in Table 3-2 to contribute to cumulative effects. Together the Project and other projects in the cumulative scenario would increase demand for public services and utilities in eastern Riverside County due to increases in workers within the area during construction; this could result in a significant cumulative impact to public services and utilities.

Fire, Law Enforcement and Health Services

Construction of present and reasonably foreseeable future projects may overlap with construction of the Project in the context of existing demands on services caused by past projects. The Project area, as well as many of the cumulative projects' sites, would be in a portion of the County that was previously undeveloped agricultural land. The other present and reasonably foreseeable cumulative projects that fall within the geographic scope for fire and law enforcement services are primarily made up of energy projects, including utility-scale solar and transmission projects. The greatest potential for fires and fire hazards would exist at these sites during construction because the on-site workforce would be at its peak, which would create human presence-related hazards, including in connection with the variety of equipment used that could create sparks or other potential fire hazards. The combined effects of the increased cumulative to demand for fire, law enforcement, and emergency medical services from the cumulative projects within the geographic scope of analysis could be cumulatively significant. However, the incremental effects of the Project would not by cumulatively considerable because, following the implementation of Project-specific BMPs and payment of the development impact fee (the amount of which is intended to offset Project-related impacts), the residual Project-related demand for fire, law enforcement, and emergency medical services from construction would not exceed established service ratios or require new or physically altered facilities, the construction of which could cause environmental impacts.

Schools and Libraries

Due to the temporary nature of construction, workers and their families would likely not relocate to the area. Therefore, the Project would not contribute to cumulative increases in demand for schools or public libraries. The temporary placement of construction workers within existing housing units, motel and hotel rooms, RV parks, and campsites would not result in adverse impacts to schools and libraries, since these facilities have already been accounted for in existing plans for public services and utilities (Impact USS-2). The combined effects for schools and libraries from the cumulative projects within the geographic scope of analysis would not be considered cumulatively significant.

Operation and Maintenance

Cumulative operational and maintenance-related impacts to public services including fire, hazardous materials handling, and medical resources and facilities related to the Project would be less than related demands during construction and would not be cumulatively significant due to

the low number of employees required to support projects in the cumulative scenario No significant cumulative effect would result.

The Project would utilize on-site groundwater that does not also supply other projects and would treat wastewater on site. Therefore, there is no potential for the Project to cause or contribute to cumulative impacts to water or wastewater systems.

Lastly, in light of the existing and remaining capacity at existing landfills, the Project's incremental solid waste-related impact, when combined with the contributions of past, other present and reasonably foreseeable future projects would not be cumulatively significant.

Decommissioning

At the end of the 30-year operational period of the proposed Project, the PVMSP components would be decommissioned and deconstructed; the site would be restored to its pre-solar facility conditions and made available for agricultural use. Similar to construction (but to a lesser degree), the greatest potential need for public services would be associated with fire hazards. Fire hazards would be greatest during this time because the on-site workforce would be at its peak which could create a potential demand for fire and police services. Under cumulative conditions, implementation of the Project in the context of past projects and in conjunction with development of projects listed in Table 3-2 is not anticipated to cause a demand on public services or utilities such that the construction of new or physical alteration of existing facilities would be required because the payment of development fees now and into the future is expected to substantially offset the public service-related demands of currently proposed and reasonably foreseeable future projects. Therefore, no significant adverse cumulative impact would result.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

Impacts would be less than significant.

3.14.8 Mitigation Measures

No mitigation measures are required.

3.15 Recreation

This section describes the environmental setting and regulatory framework in regards to recreational resources in the vicinity of the proposed Project. The study area for the recreation includes recreational areas and opportunities within 20 miles of the Project site. This is an appropriate study area for recreation because it captures all major recreation resources that contribute to baseline conditions and could be affected by activities related to the Project.

3.15.1 Environmental Setting

There are no recreation facilities, developments, or specific recreational attractions on the Project site. However, the Palo Verde Valley offers multiple outdoor recreational opportunities for boating, water skiing, jet skiing, swimming, fishing, canoeing, camping, rock hounding, hiking, mountain and trail biking, archery, hunting, horseback riding, trapping, trap and skeet shooting, photography, and off-highway vehicle (OHV) use. Recreational resources within the study area include federal and locally-managed facilities and are described below.

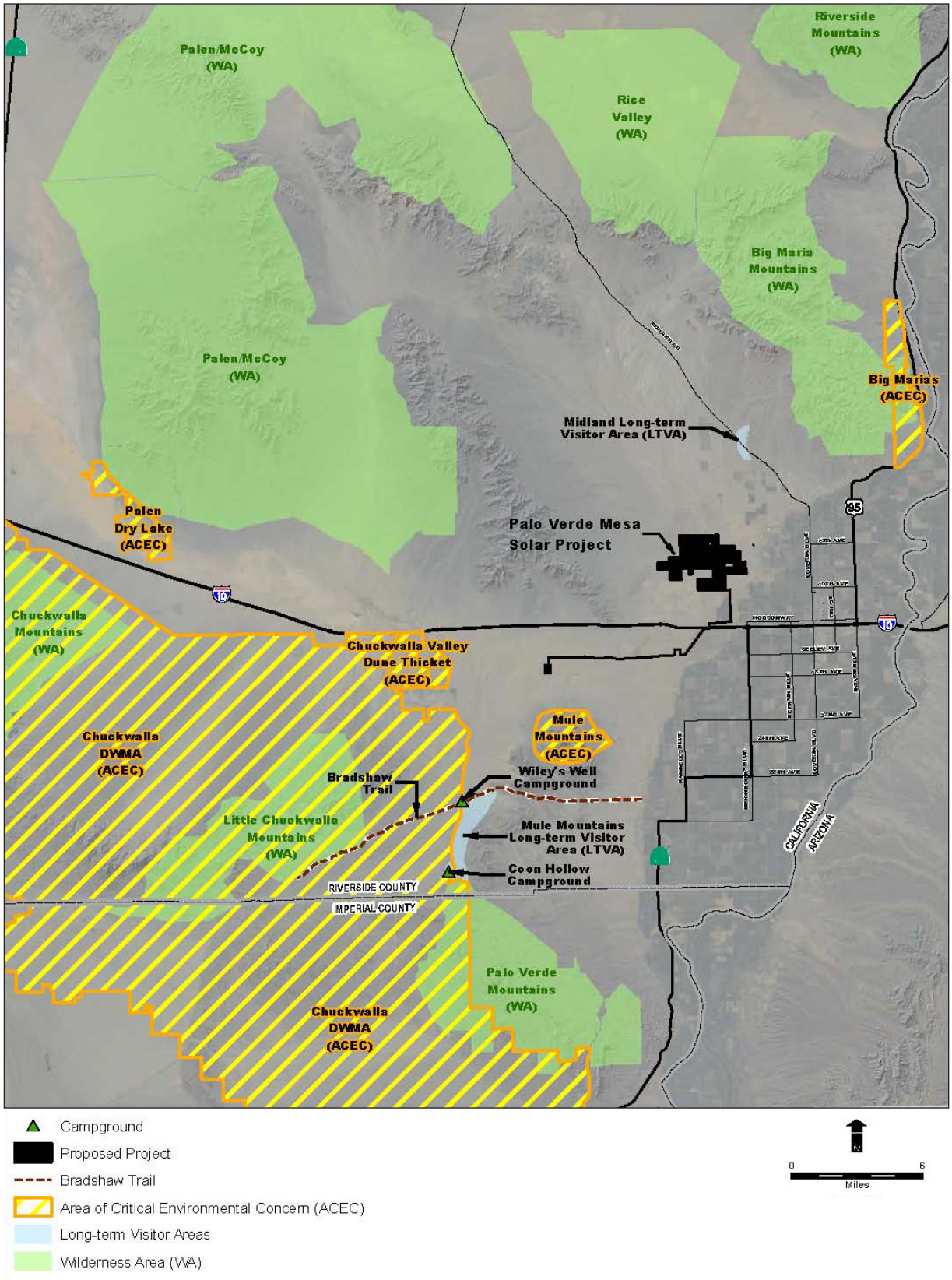
Federal Recreation Resources

Federally administered lands account for the largest recreational resource by acreage in the study area. These include a combination of sites administered by the Bureau of Land Management (BLM) and US Fish and Wildlife Service (USFWS).

BLM-Administered Recreation Resources

BLM-administered lands within the Project site are suitable for recreation activities that generally involve low to moderate user densities, including backpacking, primitive unimproved site camping, hiking, horseback riding, rockhounding, nature study and observation, photography and painting, rock climbing, spelunking, hunting, landsailing on dry lakes, noncompetitive vehicle touring, mountain and trail biking, and events only on "approved" routes of travel (BLM, 1980; BLM, 2002). BLM-administered recreational resources within the study area are provided in **Table 3.15-1** and shown on **Figure 3.15-1**.

BLM administers wilderness areas, long term visitor areas (LTVAs), Areas of Critical Environmental Concern (ACECs), and other recreational opportunities in the vicinity of the site. Undeveloped wilderness also provides dispersed recreation opportunities in the region. Overall, recreation use on BLM lands in the vicinity of the Project is limited to the cooler months of September through May, with little or no use in the summer. Popular recreation activities include car and recreational vehicle (RV) camping, OHV riding and touring, hiking, photography, hunting (dove, quail, deer), sightseeing, and visiting cultural sites. Outside of fee collection sites, the BLM has no accurate estimates of visitor use, but staff observations and ranger patrols indicate the area described in this section receives 2,000 to 3,000 visitors per year (BLM, 2011a). Local residents and long-term winter visitors make up the majority of the use.



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.15-1

BLM-Administered Recreational Areas

TABLE 3.15-1
BLM-ADMINISTERED RECREATIONAL AREAS AND OPPORTUNITIES IN THE STUDY AREA

Recreational Areas	Distance From Project (miles)
ACEC	
Mule Mountains	1.7
Chuckwalla Desert Wildlife Management Area	4.3
Chuckwalla Valley Dune Thicket	4.5
Big Marias	8.2
Palen Dry Lake	17.9
Wilderness Areas	
Palen/McCoy	7.1
Big Maria Mountains	6.0
Little Chuckwalla Mountains	9.6
Palo Verde Mountains	10.2
Rice Valley	7.8
Chuckwalla Mountains	19.2
Riverside Mountains	20.7
Long-Term Visitor Area (LTVA)	
Midland LTVA	4.4
Mule Mountains LTVA	8.7
Campground	
Wiley's Well Campground	7.0
Coon Hollow Campground	10.1
Trail	
Bradshaw Trail	5.8

SOURCE: POWER

Visitor use within the wilderness areas is very light, though BLM has no visitor use counts. Observations by staff and Law Enforcement Rangers indicate only 100 to 200 hikers per year within each of the wilderness areas (BLM, 2011a). More popular is vehicle camping along roads that are adjacent to the wilderness areas. RV camping near wilderness areas, with associated hiking, OHV use, photography, sightseeing, etc. accounts for up to 2,000 visitors per year (BLM, 2011a).

The gen-tie line portion of the Project that would be located on BLM-managed lands on which the California Desert Conservation Area (CDCA) Plan and the Northern and Eastern Colorado Desert Coordinated Management (NECO) Plan Amendment govern the types of recreational uses allowed. The gen-tie line portion of the Project crosses an area that is designated in the CDCA Plan as Multiple-Use Class M (Moderate Use), which provides for a wide variety of present and future uses such as mining, livestock grazing, recreation, energy, and utility development. In accordance with the CDCA Plan, motorized-vehicle access would be managed with Multiple-Use

Class guidelines. Vehicle access in Multiple-Use Class M areas would be allowed on existing routes unless it is determined that use must be further limited. Stopping, parking, and vehicle camping only are allowed to occur within 300 feet of a route, except within sensitive areas such as ACECs, where the limit is 100 feet (BLM, 2002). Trails are open for non-vehicular use and new trails for non-motorized access may be allowed (BLM, 1980). Two isolated BLM parcels are surrounded by the solar facility, but are not part of the Project; APN 821020013 is Designated Class L lands and APN 21060007 is unclassified lands. These lands are suitable for recreation activities that generally involve low to moderate user densities, including backpacking, primitive unimproved site camping, hiking, horseback riding, rockhounding, nature study and observation, photography and painting, rock climbing, spelunking, hunting, landsailing on dry lakes, noncompetitive vehicle touring, mountain and trail biking, and events only on "approved" routes of travel (BLM, 1980 and 2002).

Trails and OHV Access

There is one historic trail, and numerous routes on which motorized OHV use is allowed within the study area. These resources are described below.

The Bradshaw Trail

The BLM-administered portion of the Bradshaw Trail is a 65-mile backcountry byway that begins about 35 miles southeast of Indio, California and ends about 15 miles southwest of Blythe (BLM, 2009). The Riverside County Palo Verde Valley Area Plan (PVVAP) Trails and Bikeway map shows a route for the Bradshaw Trail that continues east of this location through Blythe to the Colorado River, approximately 6 miles south of proposed Project (Riverside County, 2011a). The trail is a graded dirt road that traverses mostly public land between the Chuckwalla Mountains and the Chocolate Mountain Aerial Gunnery Range. Recreational opportunities include four-wheel driving, wildlife viewing, plant viewing, bird watching, scenic drives, rockhounding, and hiking (BLM, 2009).

OHV Routes

The CDCA Plan and the NECO Plan state that vehicle access is among the most important recreation issues in the desert. A primary consideration of the recreation program is to ensure that access routes necessary for recreation enjoyment are provided (BLM, 2002). The Riverside County Sheriff's Department Off-Highway Vehicle Enforcement (ROVE) provides maps, education, and enforcement to promote responsible OHV use in the County. Designated OHV routes occur primarily on federally administered public lands; however, unauthorized uses occur on non-designated routes on both public and private lands.

Recreation and motorized travel opportunities are determined, in part, by the CDCA Plan multiple-use class and by OHV area designations. The multiple-use class is based on the sensitivity of resources and kinds of uses for each geographic area. Each of the four multiple-use classes describes a different type and level or degree of use that is permitted within that particular geographic area (refer to Section 3.10, *Land Use and Planning*, for a detailed discussion regarding CDCA Plan multiple-use classes). The proposed Project would be located in BLM Designated Multiple-Use Class M, in which vehicle access in areas would be allowed on existing routes unless it is determined that use must be further limited. Two isolated BLM parcels are

surrounded by the solar facility, but are not part of the Project; APN 821020013 is Designated Class L lands and APN 21060007 is unclassified lands.

The NECO Plan Amendment created a detailed inventory of existing routes within the NECO planning area that were officially designated as Open, Limited, or Closed as part of the NECO Plan Amendment routes of travel system. The BLM's Palm Springs-South Coast Field Office is currently completing the GPS documentation of route-specific designations and implementing route signing on the ground. A route has high significance if it provides access to other routes, historical sites, or recreational areas. Designated NECO Plan Routes are shown on **Figure 3.15-2.** The solar array facility would be located on private land, the following NECO identified routes are within the boundary of the solar facility site: 661186, 662002, 660855, 660836, and 660831. However, routes located on private lands or portions thereof are considered outside the scope of BLM approval and official route designation. The gen-tie route would cross or be adjacent to the following NECO Plan Routes: 660831, 660868, 660877, 660861, 660867, 660862, 660863, and 660703.

Wilderness Areas

Seven wilderness areas are located in the study area: the Palen-McCoy Wilderness, Big Maria Mountains Wilderness, Little Chuckwalla Mountains Wilderness, Palo Verde Mountains Wilderness, Rice Valley Wilderness, Chuckwalla Mountains Wilderness, and Riverside Mountains Wilderness. The Wilderness Act limits allowable types of recreation on wilderness lands to those that are primitive and unconfined, depend on a wilderness setting, and do not degrade the wilderness character of the area. Motorized or mechanized vehicles or equipment are not permitted in wilderness. The BLM regulates such recreation on such lands within its jurisdiction in accordance with the policies, procedures, and technologies set forth in the Code of Federal Regulations (43 CFR 6300), BLM Manual 8560 (Management of Designated Wilderness Areas) (BLM, 1983), BLM Handbook H-8560-1 (Management of Designated Wilderness Areas) (BLM, 1986), and BLM's Principles for Wilderness Management in the California Desert. More specifically, camping, hiking, rockhounding, hunting, fishing, non-commercial trapping, backpacking, climbing, and horseback riding are permissible (BLM, 1988 and 1983).

The seven wilderness areas in the vicinity of the Project have no developed trails, parking/trailheads, or other visitor use facilities. These areas are generally steep, rugged mountains, with no permanent natural water sources, thus limiting extensive hiking or backpacking opportunities. Visitor use within the wilderness areas is very light, though BLM has no visitor use counts. Observations by staff and Law Enforcement Rangers indicate only 100 to 200 hikers per year within each of the wilderness areas. More popular is vehicle camping along roads that are adjacent to the wilderness areas. RV camping near wilderness areas, with associated hiking, OHV use, photography, sightseeing, etc. accounts for up to 2,000 visitors per year (BLM, 2011a).

Mule Mountains ACEC primarily protects cultural resources. The Chuckwalla Desert Wildlife Management Area (DWMA) was designated to protect desert tortoise and significant natural resources. Chuckwalla Valley Dune Thicket and Palen Dry Lake ACECs protect both natural and cultural resources. These ACECs do not have recreation use facilities, but have signage to inform

visitors of the special values of the areas and associated protection measures. BLM has no visitor counts for these sites, but observations and patrols indicate very low use, in the hundreds per year (BLM, 2011a).

Long Term Visitor Areas

Two LTVAs are located in the study area: Midland LTVA and Mule Mountains LTVA. Both provide long-term camping opportunities. In addition to long-term camping, recreational opportunities at LTVAs include hiking; OHV use; rockhounding; viewing cultural sites, wildlife, and unique desert scenery; and solitude (BLM, 2011b; Wildernet, 2011). By contrast, the landing or take-off of aircraft, including ultra-lights and hot air balloons, is prohibited in LTVAs.

Two campgrounds are located within the boundaries of the Mule Mountains LTVA: Wiley's Well and Coon Hollow Campgrounds. Both are year-round facilities with campsites, picnic tables, grills, shade armadas, and handicapped-accessible vault toilets (BLM, 2011b).

Areas of Critical Environmental Concern

Five ACECs are within the study area: Mule Mountains, Chuckwalla Valley Dune Thicket, Chuckwalla Desert Wildlife Management Area (DWMA), Big Marias, and Palen Dry Lake. Recreation activities allowed in ACECs are determined by the resources and values for which the ACECs were established, and by the associated ACEC Management Plan. Most ACECs allow low-intensity recreation use that is compatible with protection of the relevant values.

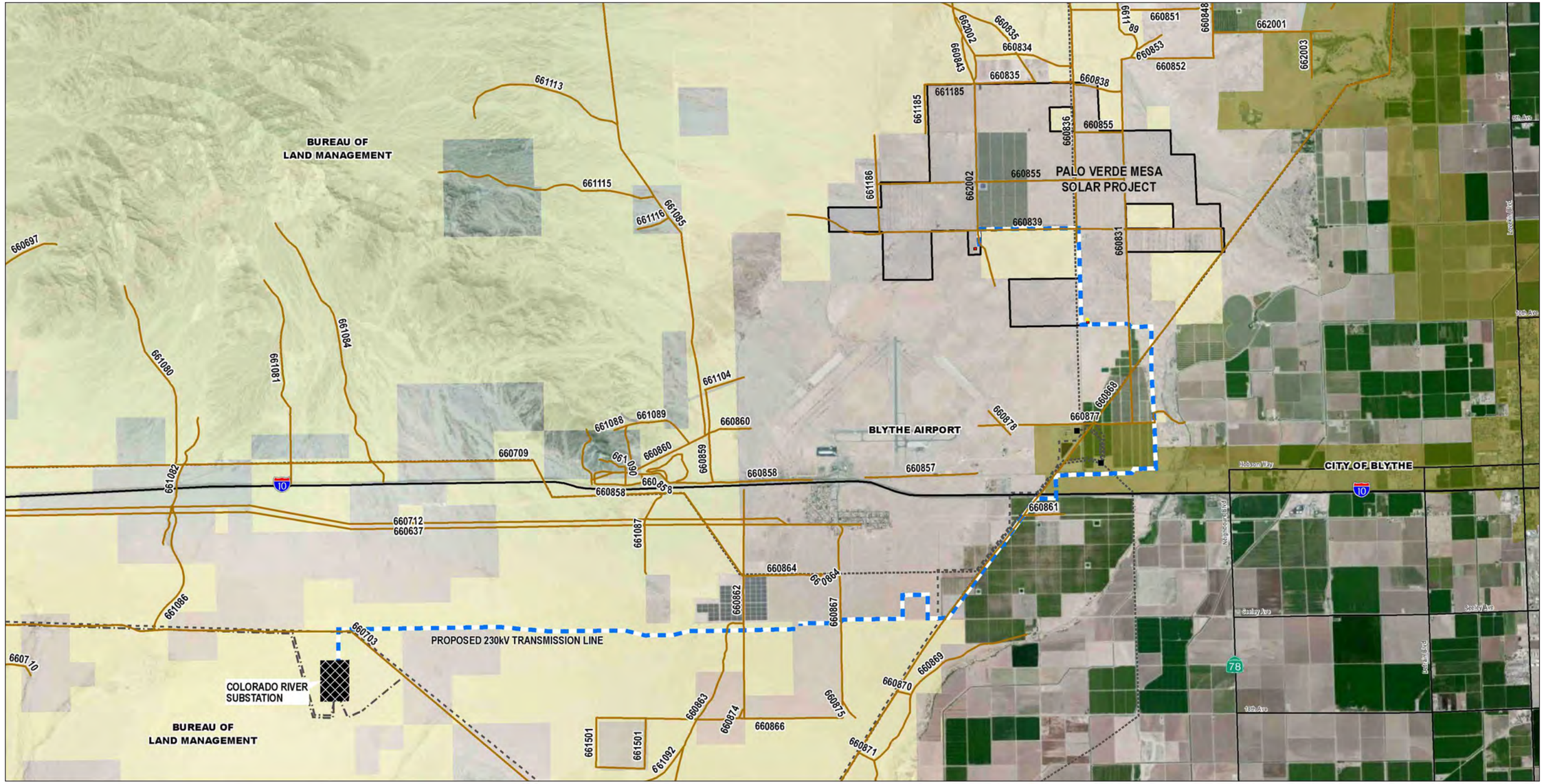
USFWS-Administered Recreational Resources

The Cibola National Wildlife Refuge, administered by the USFWS, can be reached from the California side of the Colorado River, just south of Blythe, or, from the Arizona side, south of Quartzsite. This refuge was established in 1964 as mitigation for dam construction on the Colorado River, and provides important habitat for migratory birds, wintering waterfowl, and resident species. Recreational opportunities include hunting, fishing, wildlife viewing, and a nature trail (USFWS, 2015). The refuge is approximately 14 miles from the Project area.

Regional Recreation Resources

The Riverside County Regional Park and Open-Space District

The Riverside County Regional Park and Open-Space District (RPOSD) is the County's regional recreation agency, as well as the County's OHV agency. RPOSD provides several recreational facilities in the study area. Mayflower Park, located on the Colorado River in Blythe, is 24 acres in size and provides long- and short-stay RV and tent camp sites, showers, covered picnic tables, barbeque areas, outdoor games, fishing sites, and a boat launch (RPOSD, 2015a; DesertUSA, 2015). Miller Park (5 acres) and Goose Flats Wildlife Area (230 acres) provide boating and fishing opportunities (RPOSD, 2015b; DesertUSA, 2015). An unnamed regional trail is also located approximately 5 miles east of the Project.



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.15-2

NECO Plan Route Designations

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In addition, McIntyre Park (87 acres in size), and Riviera Blythe Marina Park (14 acres in size), are concession-run parks offering RV and tent camping sites, boat ramps, swimming lagoons, on-site convenience stores, and shaded picnic and activity areas (RPOSD, 2015c; DesertUSA, 2015). Regional recreant resources are shown on **Figure 3.15-3.**

City of Blythe Parks Department

The Blythe Parks Department oversees eight parks (approximately 74 acres total), including five neighborhood parks, two community parks, and one regional park (see Figure 3.15-3). The "Big Foot Skate-board Park" is located at Todd Park. The Blythe Municipal Golf Course is approximately three miles from the Project area. The Mesa Verde Park, located just south of the Nicholls Warm Springs/Mesa Verde residential area, is approximately 0.4 mile (2,200 feet) from the proposed solar facility. Other recreational opportunities in Blythe include soccer, football, track and volleyball leagues; indoor racquetball; basketball; aerobic activities; weight room; and summer swimming. Various nearby privately owned RV parks and campgrounds also provide recreational facilities, including a boat dock, launch ramp, fishing, swimming, horseshoe pits, wildlife observation, and other active and passive recreation opportunities (City of Blythe, 2007).

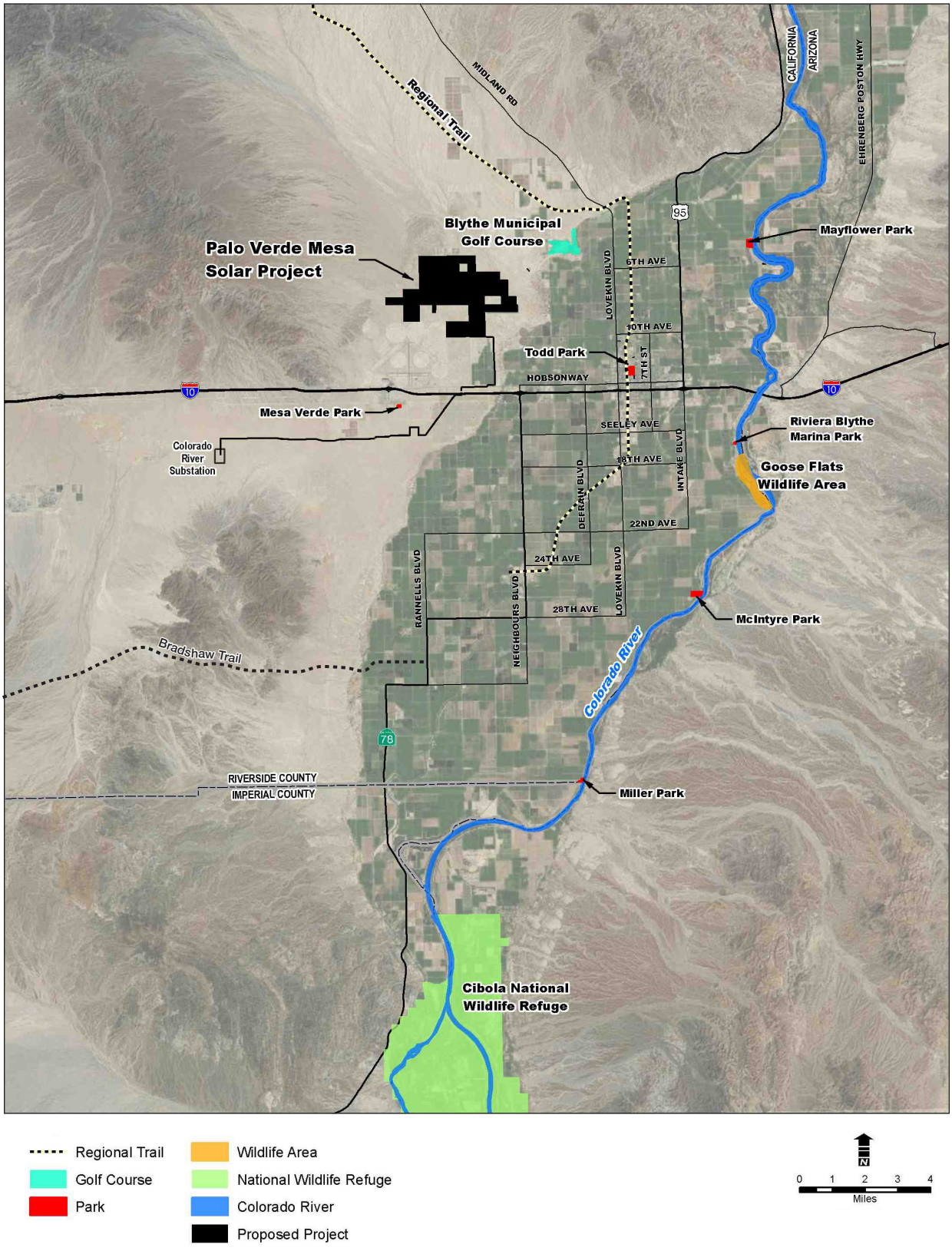
3.15.2 Regulatory Setting

Federal

California Desert Conservation Area Plan

The CDCA Plan (BLM, 1980) includes a Recreation Element to address use of, and access to, recreational destinations within the California Desert. The management goals of the CDCA Plan Recreation Element are as follows:

- Provide for a wide range of quality recreation opportunities and experiences emphasizing dispersed undeveloped use.
- Provide a minimum of recreation facilities. Those facilities should emphasize resource protection and visitor safety.
- Manage recreation use to minimize user conflicts, provide a safe recreation environment, and protect desert resources.
- Emphasize the use of public information and educational techniques to increase public awareness, enjoyment, and sensitivity to desert resources.
- Adjust management approach to accommodate changing visitor use patterns and preferences.
- Encourage the use and enjoyment of desert recreation opportunities by special populations, and provide facilities to meet the needs of those groups.



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.15-3

Regional Recreational Areas

In order to accommodate the goals, access to the desert must be provided while protecting sensitive resources. The Recreation Element states the following with regard to access:

> "To engage in most desert recreational activities outside of open areas, visitors must use motorized vehicles and usually travel on some previously used or marked motorized-vehicle route. Understandably, vehicle access is among the most important recreation issues in the Desert. A primary consideration of the recreation program, therefore, is to ensure that access routes necessary for recreation enjoyment are provided" (BLM 1980, p. 84).

Northern and Eastern Colorado Desert Coordinated Management Plan

The NECO Plan, as amended to the CDCA Plan, provides for management of recreation within the California Desert area of El Centro, Blythe, Needles, and cities in the Coachella Valley, including the Project study area. The NECO Plan specifies the type of recreational activities allowed in Multiple-Use Classes on BLM-administered land. Under this plan, new routes may be allowed if approved by the authorized officer (BLM, 2002).

Local

Riverside County General Plan

The solar facility is designated as Agriculture (AG) and Rural Community-Estate Density Residential (EDR-RC) according to the Riverside County General Plan Land Use Map. Both designations allow agriculture or limited agriculture. Agricultural areas may be used for recreational activities, such as hunting or walking. No specific policies relating to recreation apply to the proposed Project.

Palo Verde Valley Area Plan

Palo Verde Valley Area Plan (2015) policies that address recreational vehicle development include:

> **Policy PVVAP 5.4.** Allow remote recreational vehicle developments within the following land use designations: Very Low Density Residential, Estate Density Residential, Rural Residential, Rural Mountainous, Rural Desert, Open Space-Recreation, and Open Space-Rural.

> **Policy PVVAP 9.1**. Develop a system of multi-purpose trails that enhances the Colorado River's recreational values and connects with the adopted trails system of Riverside County.

3.15.3 Methodology for Analysis

This section analyzes potential effects of the proposed Project related to recreation and assesses the impacts to known recreational uses. The CDCA Plan and NECO Plan Amendment, which includes a detailed inventory and designation of open routes for motorized-vehicle use, were reviewed to determine impacts to open routes.

3.15.4 Applicable Best Management Practices

There are no BMP applicable to impacts on recreation.

3.15.5 CEQA Significance Criteria

The criteria listed below were used to determine if the proposed Project would result in impacts to recreation. These criteria were obtained from the California Environmental Quality Act (CEQA) Environmental Checklist, Appendix G of the CEQA Guidelines. Under CEQA, the proposed Project would have a significant impact on recreation if they would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated (see Impact REC-1).
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment (see Effects Found to Be Not Significant).

The following additional significance criterion from the County of Riverside's Environmental Assessment form was used in the analysis. A project could have potentially significant impacts if it would be:

- Located within a Community Service Area (CSA) or recreation and park district with a Community Parks and Recreation Plan (Quimby fees) (see Effects Found to Be Not Significant).

Effects Found Not to Be Significant

It has been determined that the proposed Project would not impact the following significance criterion:

- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.
- Located within a CSA or recreation and park district with a Community Parks and Recreation Plan (Quimby fees).

The proposed Project does not include recreational facilities or require the construction or expansion of recreational facilities. The proposed Project would be located in unincorporated Riverside County and would not be located within a CSA or recreation and park district with a Community Parks and Recreation Plan. No impact would occur.

3.15.6 Impact Analysis

Impact REC-1: The Project could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. This impact would be *less than significant.*

Approximately 48 acres of Class M public lands that would be permanently disturbed by installation of the proposed gen-tie line. As an indirect effect of the Project, recreationists could compensate for the loss of Class M public lands by utilizing other desert lands in the vicinity of the Project for their recreational experiences and benefits. This has the potential to result in more concentrated use of those areas, leading to loss of some native vegetation, wildlife habitat fragmentation or loss, elevated soil loss, increases in noise, and possible temporary declines in air quality from more concentrated vehicle use in a smaller available area. However, this impact would be less than significant because, as discussed above, high recreational use has not been observed within the Project area. As listed in **Table 3.15-1**, BLM recreational facilities in the study area include long-term camping facilities, supporting recreational uses, and NECO Plan designated routes. Depending on the number of authorized workers using the long-term camping facilities, use could affect the social setting or the physical infrastructure of these sites and/or the availability of short-term recreational uses due to increased demand. The solar facility site would be located on private land, the portions of the following NECO Plan identified routes within the solar facility site boundary would be closed during construction, operation, maintenance, and decommissioning of the proposed Project: 661186, 662002, 660855, 660855, and 6600831. Routes located on private lands or portions thereof are considered outside the scope of BLM approval and official route designation. Route closures could disperse users to other recreational facilities within the vicinity. However, this impact would be less than significant because high recreational use has not been observed within the Project area. During construction, operation, maintenance, and decommissioning, NECO Plan designated route 600836 would remain open and access to BLM parcels 821-020-013, 821-080-042, and 821-090-006 would not change. The gen-tie line route would cross or be adjacent to the following NECO Plan designated routes: 660831, 660868, 660877, 660861, 660867, 660862, 660863, and 660703. These routes would remain open during construction, operation, maintenance, and decommissioning of the Project and may be used during construction of the Project to minimize creation of new access roads.

As previously described, during construction and decommissioning activities, there would be a temporary increase in population that may utilize existing neighborhood or regional parks or other recreational facilities in the Project vicinity which could lead to further deterioration of facilities. There is a possibility that workers could use existing campsites for temporary housing during the Project's three-year construction period as discussed in section 3.13, *Population and Housing*. However, there are limitations to the campsites, such as seasonal availability, length of stay and types of on-site facilities available. In addition, there are other temporary, affordable housing alternatives, such as seasonal or vacation home rentals, that are available in the vicinity of the Project area. During construction and decommissioning activities, there would be a temporary increase in population that may use existing neighborhood or regional parks or other recreational facilities in the Project vicinity; however, it would be a temporary impact and considered less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

3.15.7 Cumulative Impacts

The geographic scope for recreational facilities includes other projects within the 20 mile study area, and in particular all projects listed in **Table 3-2**. These projects could result in similar demand for and use of long-term camping and other recreational facilities. In combination, the increased use of these resources due to the presence of authorized workers for the Project and cumulative projects could affect the physical infrastructure of these sites.

The Project's authorized workers could use long-term camping facilities and their associated recreational amenities, primarily during the construction and decommissioning period.

Construction of the present and reasonably foreseeable future projects listed in Table 3-2 may overlap with construction of the Palo Verde Mesa Solar Project (PVMSP). In particular, construction of the Blythe Solar Power Project (BSPP), McCoy Solar Project, Maverick Solar Project, Genesis Solar Energy Project, and construction and operation of the Desert Sunlight Solar Farm may contribute to cumulative recreation impacts.

During construction and decommissioning activities, the cumulative projects would introduce a substantial amount of workers to the area. Any simultaneous activities could temporarily increase the population that may utilize existing neighborhood or regional parks or other recreational facilities in the study area. Increased demand for recreation resources and the displacement of dispersed recreation from the other projects' development footprints could reduce the availability of short-term recreational uses for other visitors to the area. However, the effects related to displacing dispersed recreation would be minor due to the low observed recreation on the Project area and the temporary nature of construction. Any increase in use of recreational facilities is anticipated to be temporary and only used during construction and decommissioning. The combined effects to recreation from the cumulative projects within the geographic scope of analysis would not be considered significant. Further, when added to the cumulative scenario described above, the effects of the proposed Project's incremental contribution to recreation impacts from construction and decommissioning would not be considered cumulatively considerable.

Further, as discussed in Section 3.13, *Population and Housing*, the available housing supply in the study area far exceeds conservative estimates for cumulative demand for housing. There is a possibility that workers from cumulative projects in conjunction with the proposed Project could use existing campsites for temporary housing during the Project's three-year construction period. However, there are limitations to the campsites, such as seasonal availability, length of stay and types of on-site facilities available. In addition, there are other temporary, affordable housing alternatives, such as seasonal or vacation home rentals, that are available in the vicinity of the Project area.

Labor needs for operation and maintenance of the reasonably foreseeable future projects in conjunction with the proposed Project are substantially less than construction and decommissioning labor needs; therefore, the cumulative impact of operations is not anticipated to be significant, and the proposed Project's incremental contribution to recreational impacts from operations would not be cumulatively considerable.

In summary, the incremental effects of the Project, when considered together with other past, present, and reasonably foreseeable future projects, would not result in a cumulatively considerable increase in the use of recreational facilities that would have an adverse physical effect on the environment. Cumulative impacts to recreational facilities would be less than significant.

Mitigation Measures

No mitigation measures are recommended.

Significance after Mitigation

Cumulative impacts would be less than significant.

3.15.8 Mitigation Measures

No mitigation measures are required.

3.16 Traffic and Transportation

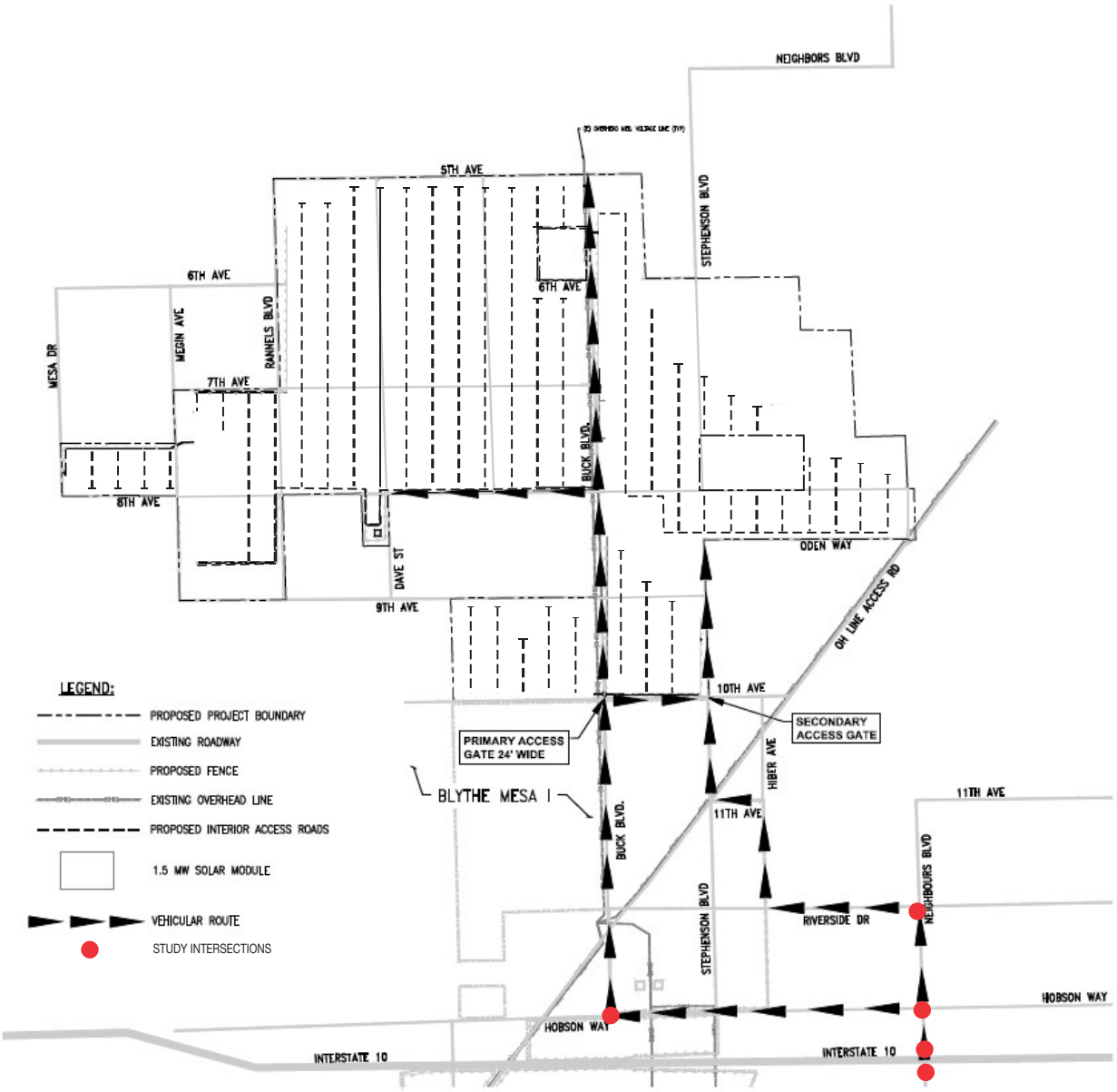
This section describes the environmental setting and regulatory framework in regards to traffic and transportation for the proposed Project, including applicable plans, policies, and regulations. Because the Project site is located in a remote area, all materials would have to be brought to the site from long distances and/or personnel would have to travel from surrounding communities within Riverside County. Consequently, all Project-related traffic would utilize Interstate 10 (I-10) for regional travel. The "Project area" or "study area" for the traffic and transportation analysis would be the existing roadways and intersections with the potential to experience an increase in traffic volume during Project construction. Therefore, the study area for this analysis of transportation and traffic includes these local roads and I-10 in the vicinity of the Project.

A Traffic Impact Study Report for the Palo Verde Mesa Solar Project (KOA Corporation, 2013) was prepared by the Applicant's consultant to evaluate the potential transportation and traffic impacts of the Project and is provided as Appendix J of this Draft EIR.

3.16.1 Environmental Setting

The Project area is located in Riverside County, approximately five miles northwest of the center of the City of Blythe and 40 miles east of Desert Center (refer to Figure 2-4, Regional Area, in Chapter 2). The Project is located north of I-10 and west of Highway 95. It is anticipated that most construction workers would be drawn from the Blythe/Palo Verde Valley region and the Desert Center region, with a smaller portion drawn from the Imperial Valley or Eastern Riverside County region. Workers and delivery trucks would access the Project site using the Neighbors Boulevard off-ramps from I-10 (see **Figure 3.16-1**). The primary access to the site would occur along Hobson Way and Buck Boulevard. The secondary access would follow Neighbours Boulevard to Riverside Drive to Hiber Avenue to 11th Avenue and onto Stephesen Boulevard to the site. It is anticipated that the following five intersections within the traffic study area are likely to experience a substantial increase in traffic volume during construction (see Figure 3.16-1):

- Buck Boulevard and Hobson Way
- Neighbours Boulevard and Riverside Drive
- Hobson Way and Neighbours Boulevard
- Neighbours Boulevard and I-10 westbound ramps
- Neighbours Boulevard and I-10 eastbound ramps



SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.16-1

Access Roads and Study Intersections

Regional and Local Roadway Facilities

Interstate 10 (I-10) is the nearest freeway to the solar facility site and gen-tie lines. It provides regional east/west travel throughout the state, beginning in Los Angeles and continuing west past the California state border to Arizona and beyond. In the vicinity of the Project area, it has two lanes per direction. Neighbours Boulevard provides a full interchange with this freeway.

The local roadway facilities in the vicinity of the Project area include Neighbours Boulevard, Riverside Drive, Hobson Way, and Buck Boulevard:

Neighbours Boulevard, or State Route 78, is a two-lane roadway running on a north/south alignment connecting to I-10 via an existing interchange. It provides one travel lane per direction and is divided by a double-yellow center line. Land uses along this roadway in the Project vicinity include rural residential, with vacant lots and some commercial, farming land, and industrial land uses. Neighbours Boulevard (State Route 78) has been identified as a key critical segment by Riverside County's Congestion Management Program.

Riverside Drive is a two-lane roadway running on an east/west alignment connecting to Neighbours Boulevard. It provides one travel lane per direction, with no centerline delineation. Land uses along this roadway in the Project vicinity include rural residential, with vacant lots and some farming land and industrial land uses.

Hobson Way is a two-lane roadway running on an east/west alignment connecting to Neighbours Boulevard. It provides one travel lane per direction with white broken centerline delineation. Land uses along this roadway in the Project vicinity are mostly residential uses with vacant lots and some farming land and industrial land uses.

Buck Boulevard is a two-lane roadway running on a north/south alignment connecting to Hobson Way. It provides one travel lane per direction with white broken centerline delineation. Land uses along this roadway in the Project vicinity are mostly vacant lots and some farming land and industrial land uses.

Existing Intersection Levels of Service

The *Highway Capacity Manual* (HCM) provides methodologies utilized by the Project to assess potential impacts to traffic flow. A Level of Service (LOS) scale is used to indicate the quality of traffic flow on roadway segments and at intersections. LOS is an indicator of operating conditions on a roadway or at an intersection and is defined in categories ranging from A to F. LOS A represents the best traffic flow conditions with very low delay, and LOS F represents poor conditions. LOS A indicates free-flowing traffic, and LOS F indicates substantial congestion with long delays at intersections.

LOS for signalized intersections is based upon the average time (seconds) that vehicles approaching an intersection are delayed. There is a specific delay and level of service associated

with each approach and an overall average delay for all movements. The overall LOS for the intersection is based upon the overall average delay.

Unsignalized intersection LOS is also based upon the control delay, but delay is only assessed for those traffic movements that are stopped or must yield to through traffic. Some movements, including cross traffic on the minor street or left turns onto the major street, can be subject to long delays; however, through traffic and right turns from the major street would not experience any delays at stopped intersections. When delay for cross traffic is severe (LOS F), the intersection should be evaluated further for possible improvement with traffic signals. In some cases, this analysis determines that the delay is being experienced by a very low number of vehicles, and traffic signals are not warranted. In other cases, when the number of stopped vehicles is substantial, and traffic signals may be justified as a mitigation measure, additional analysis is required to determine the need and justification for the installation of a traffic signal.

Table 3.16-1 shows the relationship between LOS and the performance measures for signalized and unsignalized intersections and lists the HCM delay criteria for signalized intersections.

TABLE 3.16-1
INTERSECTION LEVELS OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection Control Delay (in sec/veh)	Unsignalized Intersection Control Delay (in sec/veh)
A	0 – 10	0 – 10
B	10.1 – 20	10.1 – 15
C	20.1 – 35	15.1 – 25
D	35.1 – 55	25.1 – 35
E	55.1 – 80	35.1 – 50
F	80.1 or more	50.1 or more

SOURCE: KOA Corporation, Traffic Impact Study Report, June 2013.

For the proposed Project, intersection turning movement classification counts were performed during the weekday morning peak period from 7:00 a.m. to 9:00 a.m. and during the weekday evening peak period from 4:00 p.m. to 6:00 p.m. in September 2011 and March 2012. Intersection classification counts provide vehicle classification (cars, pickups, buses, trucks, etc.) data in addition to the individual vehicle movements. Due to the nature of this Project, passenger car equivalent (PCE) factors were used in order to accurately evaluate the impact that a mode of transport has on traffic variables (such as headway, speed, density) compared to a single car. The traffic impacts of heavy trucks at intersections are normally addressed by converting heavy vehicles into PCEs. Studies have indicated that each truck has a similar traffic impact that ranges between 1.5 and 3 passenger vehicles at intersections. A PCE factor of 3.0 for 4-axle trucks, 2.0 for 3-axle trucks, and 1.5 for 2-axle trucks was applied to classification counts.

As illustrated in **Table 3.16-2**, all intersections within the study area of the proposed Project are operating at an acceptable level of service (LOS A). For both a.m. and p.m. peak hours, most of

the traffic originates from the south towards the ramps and Hobson Way, with a very limited amount of traffic heading towards Riverside Avenue. Most of this traffic can be attributed to the heavy agriculture activities located south of I-10 heading to and from the City of Blythe. The higher volumes heading northbound and southbound from Seeley Avenue cause a higher delay at the intersection; however, all of the intersections operate at LOS A, which represents a free-flow operation, and vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.

TABLE 3.16-2
EXISTING INTERSECTION CONDITIONS

	Without Project	
Intersection	**Delay (sec/veh)**	**LOS**
AM Peak Hour		
1. Buck Boulevard & Hobson Way	8.7	A
2. Neighbours Blvd & Riverside Dr	8.9	A
3. Neighbours Blvd & Hobson Way	8.9	A
4. Neighbours Blvd & I-10 WB Ramp	8.8	A
5. Neighbours Blvd & I-10 EB Ramp	9.0	A
PM Peak Hour		
1. Buck Boulevard & Hobson Way	9.0	A
2. Neighbours Blvd & Riverside Dr	8.6	A
3. Neighbours Blvd & Hobson Way	9.9	A
4. Neighbours Blvd & I-10 WB Ramp	9.3	A
5. Neighbours Blvd & I-10 EB Ramp	9.4	A

NOTE: *All are unsignalized intersections.

SOURCE: KOA Corporation, Traffic Impact Study Report, June 2013.

Public Transportation within the Project Vicinity

Pedestrian and Bicycle

Pedestrian facilities include sidewalks, crosswalks, curb ramps, pedestrian signals, and streetscape amenities. Pedestrian facilities currently do not exist in the proposed Project study area. The existing pedestrian network does not currently provide sidewalks connecting adjoining land uses along Neighbours Boulevard, Riverside Drive, and Hobson Way. No bicycle facilities (e.g., bicycle paths, lanes, or routes) currently exist in the proposed Project study area.

Bus Service

Bus service is offered by the Palo Verde Valley Transit Agency along Neighbours Boulevard, north and south of I-10. Routes 3, 4, and 5 travel along Hobson Way pass through the Project vicinity, and then heads west towards Mesa Verde. The bus stop located within the vicinity of the

Project is at the intersection of Hobson Way and Buck Boulevard. Routes 3 and 5 run along Neighbours Boulevard towards Ripley, with stops on the corner of Hobson Way and 14th Avenue along Neighbours Boulevard.

Rail Service

Blythe is served by the Arizona and California Railroads, but there is currently no service directly to and from Blythe via rail.

Airport Service

Blythe Airport is a public airport located six miles west of Blythe and two miles south of the Project, serving Riverside County. The airport has two runways and is mostly used for general aviation. W R Byron Airport is a private airport located within city limits, approximately four miles northwest of central Blythe and two and a half miles northeast of the Project. Cyr Airport is a private airport with two runways that is located two miles south from the center of Blythe and five miles southeast of the Project area.

3.16.2 Regulatory Setting

Project construction, operation, maintenance, and decommissioning could affect access and traffic flow patterns on public streets and highways. Therefore, it would be necessary for the Applicant or its designee to obtain encroachment permits or similar authorization from the public agencies responsible for the affected roadways, such as Caltrans, Riverside County, or other affected agencies.

Federal

CFR, Title 49, Subtitle B

This regulation includes procedures and regulations pertaining to interstate and intrastate transport (including hazardous materials program procedures) and provides safety measures for motor carriers and motor vehicles that operate on public highways.

State

The use of state highways for other than transportation purposes requires an encroachment permit, which an applicant can obtain through submission of Caltrans form TR-0100. This permit is required for utilities, developers, and non-profit organizations for use of the state highway system to conduct activities other than transportation (e.g., landscape work, utility installation, film production) within the ROW. The application would be forwarded to Caltrans District 8, whose jurisdiction includes the Project site. Additionally, the transport of oversize or overweight loads would require approval from Caltrans.

Local

2011 Riverside County Congestion Management Program

County of Riverside Congestion Management Plan

Riverside County's Congestion Management Plan (CMP) specifies that all CMP roadways operate at a Level of Service (LOS) of "E" or better. All state highways and principal arterials are CMP roadways. I-10 and Neighbours Boulevard (SR-78) are the only CMP roadways in the Project study area. The CMP was first established in 1990 under Proposition 111.

Proposition 111 established a process for each metropolitan county in California to designate a Congestion Management Agency (CMA) that would be responsible for development and implementation of the CMP within county boundaries. The Riverside County Transportation Commission (RCTC) was designated as the CMA in 1990 and, therefore, prepares the CMP updates in consultation with the Technical Advisory Committee (TAC), which consists of local agencies, the County of Riverside, transit agencies, and subregional agencies.

The RCTC's adopted minimum LOS threshold is LOS "E." Therefore, when a CMP street or highway segment falls to "F," a deficiency plan must be required. Preparation of a deficiency plan will be the responsibility of the local agency where the deficiency is located. Other agencies identified as contributors to the deficiency will also be required to coordinate with the development of the plan. The plan must contain mitigation measures, including consideration of Transportation Demand Management (TDM) strategies and transit alternatives, and a schedule for mitigating the deficiency.

Regional Comprehensive Plan and Regional Transportation Plan

SCAG's Intergovernmental Review section, part of the Environmental Planning Division of Planning and Policy, is responsible for performing consistency review of regionally significant local plans, projects, and programs. Regionally significant projects are required to be consistent with SCAG's adopted regional plans and policies, such as the Regional Comprehensive Plan and the Regional Transportation Plan. The criteria for projects of regional significance are outlined in CEQA Guidelines Sections 15125 and 15206. According to the SCAG Intergovernmental Review Procedures Handbook, "new or expanded electrical generating facilities and transmission lines" qualify as regionally significant projects.

Policy 3.05: Encourage patterns of urban development and land use which reduce costs on infrastructure construction and make better use of existing facilities.

Policy 3.14: Support local plans to increase density of future development located at strategic points along the regional commuter rail, transit systems, and activity centers.

Policy 3.14: Encourage developments in and around activity centers, transportation corridors, underutilized infrastructure systems, and areas needing recycling and redevelopment.

Policy 3.17: Support and encourage settlement patterns which contain a range of urban densities.

Policy 3.18: Encourage planned development in locations least likely to cause adverse environmental impact.

Policy RTP G5: Protect the environment, improve air quality and promote energy efficiency.

Policy RTP G6: Encourage land use and growth patterns that complement our transportation investments and improve the cost-effectiveness of expenditures.

Policy GV P1.1: Encourage transportation investments and land use decisions that are mutually supportive.

Policy GV P4.2: Focus development in urban centers and existing cities.

Policy GV P4.3: Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution and significantly reduce waste.

Policy GV P4.4: Utilize "green" development techniques.

Riverside County General Plan

The Riverside County General Plan (adopted December 2015) is applicable to all unincorporated lands within Riverside County. Countywide policies that address traffic and transportation within the County boundaries are located in the Circulation Element and Land Use Element of the County General Plan, and include:

Circulation Element (C)

Policy C 1.8: Ensure that all development applications comply with the California Complete Streets Act of 2008 as set forth in California Government Code Sections 65040.2 and 65302.

Policy C 2.1. The following minimum target levels of service have been designated for the review of development proposals in the unincorporated areas of Riverside County with respect to transportation impacts on roadways designated in the Riverside County Circulation Plan (Figure C-1), which are currently County maintained, or are intended to be accepted into the County maintained roadway system:

LOS C shall apply to all development proposals in any area of the Riverside County not located within the boundaries of an Area Plan, as well those areas located within the following Area Plans: REMAP, Eastern Coachella Valley, Desert Center, Palo Verde Valley, and those non- Community Development areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans.

LOS D shall apply to all development proposals located within any of the following Area Plans: Eastvale, Jurupa, Highgrove, Reche Canyon/Badlands, Lakeview/Nuevo, Sun City/Menifee Valley, Harvest Valley/Winchester, Southwest Area, The Pass, San Jacinto Valley, Western Coachella Valley and those Community Development Areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans.

LOS E may be allowed by the Board of Supervisors within designated areas where transit oriented development and walkable communities are proposed.

Notwithstanding the forgoing minimum LOS targets, the Board of Supervisors may, on occasion by virtue of their discretionary powers, approve a project that fails to meet these LOS targets in order to balance congestion management considerations in relation to benefits, environmental impacts and costs, provided an Environmental Impact Report, or equivalent, has been completed to fully evaluate the impacts of such approval. Any such approval must incorporate all feasible mitigation measures, make specific findings to support the decision, and adopt a statement of overriding considerations.

Policy C2.2. Require that new development prepare a traffic impact analysis as warranted by the Riverside County Traffic Impact Analysis Preparation Guidelines or as approved by the Director of Transportation. Apply level of service targets to new development per the Riverside County Traffic Impact Analysis Preparation Guidelines to evaluate traffic impacts and identify appropriate mitigation measures for new development.

Policy C 2.3. Traffic studies prepared for development entitlements (tracts, plot plans, public use permits, conditional use permits, etc.) Shall identify project related traffic impacts and determine the "significance" of such impacts in compliance with CEQA and the Riverside County Congestion Management Program Requirements.

Policy C 2.4. The direct project related traffic impacts of new development proposals shall be mitigated via conditions of approval requiring the construction of any improvements identified as necessary to meet level of service targets.

Policy C 2.8. Riverside County shall coordinate with Caltrans, RCTC and adjacent local jurisdictions in conformance with the Riverside County Congestion Management Program to determine the appropriate LOS threshold for determining significance when reviewing development proposals that directly impact nearby State Highway facilities or city streets.

Policy C 3.6 Require private developers to be primarily responsible for the improvement of streets and highways that serve as access to developing commercial, industrial, and residential areas. These may include road construction or widening, installation of turning lanes and traffic signals, and the improvement of any drainage facility or other auxiliary facility necessary for the safe and efficient movement of traffic or the protection of road facilities.

Policy C 3.8 Restrict heavy duty truck through-traffic in residential and community center areas and plan land uses so that trucks do not need to traverse these areas.

Policy C 3.9 Design off-street loading facilities for all new commercial and industrial developments so that they do not face surrounding roadways or residential neighborhoods. Truck backing and maneuvering to access loading areas shall not be permitted on the public road system, except when specifically permitted by the Transportation Department.

Policy C 3.10. Require private and public land developments to provide all on-site auxiliary facility improvements necessary to mitigate any development-generated circulation impacts. A review of each proposed land development project shall be undertaken to identify project impacts to the circulation system and its auxiliary facilities. The Transportation Department may require developers and/or subdividers to provide traffic impact studies prepared by qualified professionals to identify the impacts of a development.

Policy C 6.1 Provide dedicated and recorded public access to all parcels of land, except as provided for under the statutes of the State of California.

Policy C 6.2. Require all-weather access to all new development.

Policy C 7.1. Work with incorporated cities to mitigate the cumulative impacts of incorporated and unincorporated development on the countywide transportation system.

Policy C7.9. Review development applications in cooperation with RCTC and as appropriate, to identify the precise location of CETAP corridors and act to preserve such areas from any permanent encroachments, pending dedication or acquisition. Coordinate with RCTC to evaluate and update the CETAP corridors periodically as conditions warrant.

Policy C 20.6. Control dust and mitigate other environmental impacts during all stages of roadway construction.

Policy 20.15. Implement National Pollutant Discharge Elimination System Best Management Practices relating to construction of roadways to control runoff contamination from affecting the groundwater supply.

Land Use Element (LU)

Policy LU *7.3* Consider the positive characteristics and unique features of the project site and surrounding community during the design and development process.

Policy LU *7.4* Retain and enhance the integrity of existing residential, employment, agricultural, and open space areas by protecting them from encroachment of land uses that would result in impacts from noise, noxious fumes, glare, shadowing, and traffic.

Riverside County General Plan: Palo Verde Valley Area Plan

The applicable policy related to traffic and transportation included with the PVVAP is provided below.

Policy PVVAP 7.2. Maintain Riverside County's roadway Level of Service standards as described in the Level of Service section of the General Plan Circulation Element.

Riverside County Municipal Code Title 10, Chapter 10.08, Sections 10.08.010 – 10.08.180

These regulations establish requirements and permits for oversize and overweight vehicles.

Riverside County Ordinance No. 460

This ordinance specifies that all work shall conform to the requirements of the Riverside County Transportation Department Subdivision Regulations.

Riverside County Ordinance No. 461

This ordinance specifies that all work shall conform to the requirements of the Riverside County Transportation Department Road Improvement Standards and Specifications.

City of Blythe General Plan 2025

Policies related to traffic and transportation included with the City of Blythe General Plan 2025 are provided below.

Circulation Element

Policy 11: Strive to maintain traffic LOS B on residential streets and LOS C or better on arterial and collector streets, at all intersections, and on principal arterials in the CMP during peak hours.

Policy 12: Accept LOS D for built-out areas served by transit after finding that:

- There is no practical and feasible way to mitigate the lower level of service; and
- The uses resulting in the lower level of service are of clear, overall public benefit.

City of Blythe Municipal Code, Title 10, Article 19, Section 19.1

This code establishes permit requirements for moving heavy loads or equipment on city streets.

3.16.3 Methodology for Analysis

This analysis focuses on potential impacts related to the construction, operation, maintenance, and decommissioning of the Project on the surrounding transportation systems and roadways using the *Traffic Impact Study Report for the Palo Verde Mesa Solar Project* (KOA Corporation 2013) found in Appendix J. Impacts to local transportation systems were evaluated based on the level of service (LOS) determinations.

This assessment of transportation-related impacts is based on evaluations and technical analyses designed to compare the existing conditions (pre-Project), construction of the Project, and cumulative impacts. Operation of the Project would require 12 permanent full-time employees, which would not generate a substantial or significant number of trips above those already generated by the exiting agricultural operations in the Project area. However, the construction phase of the Project would include trips generated by construction workers and supplies delivered by trucks to the Project area. Decommissioning activities are anticipated to be similar to construction, but less intense. This analysis considers the effects of transportation and traffic of the Project in the context of Caltrans and Riverside County requirements. Caltrans is the agency responsible for permitting and regulation of the use of state-administered roadways within California, including I-10, and the County is the agency responsible for regulation of the use of roadways within its jurisdictional boundaries.

Ambient Growth

Based on discussion with the County of Riverside, the ambient growth in the Project area is anticipated to increase at a rate of about two percent per year. Future increases of the existing traffic volumes due to regional growth are expected to continue at this rate in the vicinity of the Project. Assuming a completion date within four years, the existing traffic volumes were adjusted upward by eight percent to reflect area-wide growth.

Level of Service Standards

In addition to the CEQA thresholds, an intersection LOS analysis was conducted to assess operational performance of the traffic study area during construction. For LOS, the applicable significance thresholds were based on the Riverside County Transportation Commission's (RCTC) 2011 Congestion Management Program (CMP), County of Riverside requirements, and City of Blythe requirements.

Riverside County's CMP specifies that all CMP roadways operate at an LOS threshold of E. Most local agencies in Riverside County and the California Department of Transportation (Caltrans) have adopted LOS standards of C or D for roadway segments in an effort to maintain a desired LOS for the local circulation system. Within the traffic study area, Neighbours Boulevard (State Route 78) has been identified as a key element of the CMP system. Based on the CMP, a significant traffic impact would occur: (1) when existing pre-Project LOS A, B, C, and D become LOS E or F with the Project; or (2) when the existing pre-Project LOS E becomes LOS F with the Project.

The Riverside County Circulation Element Policy C2.1 states that the County must maintain a target LOS C along County-maintained roads and conventional state highways. Therefore, a significant local impact to the County would occur if the pre-Project (base) LOS A, B, or C roadway becomes LOS D, E or F. While the Circulation element states that LOS E may be allowed in a designated community, there are no such designated community centers at the study intersections or in the Project area.

The City of Blythe strives to maintain LOS B on residential streets and LOS C or better on arterial and collector streets, at all intersections, and on principal arterials in the CMP during peak hours.

3.16.4 Applicable Best Management Practices

As part of the Project, the following applicable BMPs would minimize the environmental impacts associated with traffic. The BMPs have been detailed below (see also Table 2-4 in Chapter 2) and are further referenced (by number) within the impact discussion.

BMP-5 **Emergency Action Plan.** As required by Title 8 CCR Section 3220, the Project would develop a site-specific operations phase Emergency Action Plan. The operations Emergency Action Plan would address potential emergency situations requiring emergency response and/or planned evacuation. The plan would describe accident scenarios, evacuation routes, alarm systems, points of contact, assembly areas, responsibilities, and other actions to be taken in the event of an emergency. In particular, the plan would describe arrangements with local emergency response agencies.

BMP-14 **Travel and traffic.** Vehicular traffic on site shall be confined to existing or designated travel routes and designated work areas. Access to the construction site and staging areas shall be limited to authorized vehicles and only through the designated roads. The extent of habitat disturbance during construction shall be reduced by keeping vehicles on access roads and minimizing foot and vehicle traffic through undisturbed areas. Travel shall be limited to stabilized roads. Road maintenance activities shall avoid blading existing forbs and grasses in ditches and adjacent to roads. Abandoned roads and roads no longer needed shall be subsoiled to increase infiltration and reduce soil compaction, then recontoured and revegetated.

Construction traffic shall avoid unpaved surfaces to the extent practical (to reduce the risk of compaction) and reduce speed to lessen fugitive dust emissions. On unpaved or unstabilized surfaces within the construction site, speed limits (e.g., 20 mph) shall be posted with visible signs and enforced to minimize airborne fugitive dust. Project vehicle speeds shall be limited in areas occupied by special-status animal species. Traffic shall stop to allow wildlife to cross roads. Shuttle vans or carpooling shall be used where feasible to reduce the amount of traffic on access roads. Workers shall be trained to comply with the speed limit, use good engineering practices, minimize the drop height of materials, and minimize the number and extent of disturbed areas. The Project developer shall enforce these requirements.

BMP-15 **New access roads and parking lots.** New access roads shall be designed and constructed to the appropriate road design standards, such as those described in BLM Manual 9113 or County standards, whichever is applicable. New access roads shall be designed to follow natural land contours in the Project area and avoid existing desert washes. The specifications and codes developed by the U.S. Department of Transportation (DOT) and County of Riverside Transportation Department are also to be taken into account. Primary access roads and parking lots shall be surfaced with aggregate that is hard enough that vehicles cannot crush it and thus cause dust or compacted soil conditions. Paving may also be used on access roads and parking lots. Alternatively, chemical dust suppressants or durable polymeric soil stabilizers would be used on these locations.

3.16.5 CEQA Significance Criteria

The criteria used to determine the significance of the Project-related traffic and transportation impacts are based on the criteria identified in the CEQA Guidelines, Appendix G. Project-related impacts would be considered significant if they would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit (see Impact TRA-1).
- Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways (see Impact TRA-2).
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks (see Impact TRA-3).
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (see Impact TRA-4).
- Result in inadequate emergency access (see Impact TRA-5).
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (see Impact TRA-6).

The following additional significance criteria from the County of Riverside Environmental Assessment Form are used in the analysis. A project could have potentially significant impacts if it would:

- Alter waterborne, rail or air traffic (see Impact TRA-1).
- Cause an effect, or a need for new or altered maintenance of roads (see Impact TRA-5).
- Cause an effect upon circulation during the project's construction (see Impact TRA-1); or
- Affect bike trails (see Impact TRA-1).

Effects Found Not To Be Significant

It has been determined that the Project would not result in impacts related to the following significance criteria:

- Alter waterborne traffic

There is no waterborne traffic in the vicinity of the Project. The Project would not utilize waterborne traffic to transport materials or the workforce; no impact would occur.

3.16.6 Impact Analysis

The following discussion of the Project's effects related to transportation and traffic is provided to inform the impact analyses under more than one of the significance criteria.

Project Construction Trip Generation Forecast

Construction of the Project would take approximately 36 months, with 24 months of peak construction period. The Project is expected to generate a maximum of 20 truck deliveries per day for the 24-month peak construction period. Transport truck deliveries would include material deliveries and equipment. The calculations below account for heavier vehicle types (trucks) by converting truck trips to passenger car equivalents (PCEs), which are used in roadway capacity analysis to convert a mixed vehicle flow into an equivalent passenger car flow. This calculation is relevant to capacity and LOS determination, lane requirements, and determination of the effect of traffic on roadway operations.

The Project would employ a construction workforce of approximately 300 to 500 workers. It is anticipated that most workers would be drawn from communities within Riverside County and a smaller portion from Imperial County, California and La Paz County, Arizona. Workers would enter the site using the primary access via Buck Boulevard off of Hobson Way and secondary access via Stephenson Road off of Riverside Drive. Figure 3.16-1, *Access Roads and Study Intersections*, illustrates the proposed access roads to and from the solar facility site and interior access roads within the solar facility. Although construction work hours would be 7:00 a.m. to 6:00 p.m., meaning construction workers would commute to and from the Project area outside of the typical peak commute periods (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.), the analysis conservatively assumes all construction workers would commute during the aforementioned peak traffic periods. Heavy equipment would be delivered via truck, using Neighbours Boulevard from I-10, and would enter the site using the primary access via Buck Boulevard off of Hobson Way and the secondary access via Stephenson Road off of Riverside Drive. Anticipated average daily material deliveries would consist of about 20 truck deliveries per day.

The Project would generate a total of 1,164 trips daily, including 429 trips during the a.m. peak hour and 429 trips during the p.m. peak hour. **Table 3.16-3** lists the daily inbound and outbound trips that would result from peak construction during the a.m. and p.m. peak hours.

TABLE 3.16-3
DAILY AND PEAK-HOUR TRIPS DURING PEAK CONSTRUCTION

	Daily PCE	AM Peak Hour	PM Peak Hour
Employee Trips	884	400 inbound	400 outbound
Truck Trips	103	6 inbound 5 outbound	6 inbound 5 outbound
Ancillary Trips	177	9 inbound 9 outbound	9 inbound 9 outbound
Net Project Trips (PCEs)	**1,164**	**429 PCE**	**429 PCE**

NOTE: peak hours do not coincide with the departure time of employees but, to be conservative, were included in the analysis.

SOURCE: KOA Corporation, Traffic Impact Study Report, June 2013.

Impact TRA-1: The Project could conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. This impact would be *less than significant with mitigation incorporated.*

Construction

The proposed Project is inherently more likely to affect the transportation network during construction than during operation, because there would be only approximately 12 permanent full-time employees for operation of the solar facility. Consequently, the transportation analysis is devoted to the potential impacts during the construction phase. During the installation period, construction workers are projected to be onsite five days per week, year round. The construction p.m. peak hour for the project would be expected to occur with the departure of personnel at 6:00 p.m. This does not coincide with the p.m. peak hour of the adjacent street, which occurs between 4:00 p.m. and 6:00 p.m.; however to be conservative, the project PM peak hour trip generation was analyzed during the PM peak hour of the adjacent street traffic.

As illustrated in Figure 3.16-1, construction traffic for the Project would utilize the following access roads: Neighbours Boulevard, Hobson Way, Buck Boulevard, Riverside Drive, Hiber Avenue, 11th Avenue, Stephenson Boulevard, and 10th Avenue. Vehicular traffic would be confined to existing or designated travel routes and designated work areas (BMP-14). **Table 3.16-4** documents the anticipated delays and LOS at each of the study intersections with and without project construction for the Year 2015.

TABLE 3.16-4
2015 PROJECT CONSTRUCTION CONDITIONS

Intersection	Without Project Construction		With Project Construction		Delay (seconds)	Potentially Significant
	Delay	LOS	Delay	LOS		
AM Peak Hour						
1. Buck Boulevard & Hobson Way	8.7	A	9.0	A	0.3	No
2. Neighbours Blvd & Riverside Dr	9.0	A	14.2	B	5.2	No
3. Neighbours Blvd & Hobson Way	9.2	A	28.9	**D**	19.7	**Yes**
4. Neighbours Blvd & I-10 WB Ramp	9.0	A	13.3	B	4.3	No
5. Neighbours Blvd & I-10 EB Ramp	9.2	A	11.0	B	1.8	No
PM Peak Hour						
1. Buck Boulevard & Hobson Way	9.4	A	15.1	C	5.7	No
2. Neighbours Blvd & Riverside Dr	8.6	A	9.8	A	1.2	No
3. Neighbours Blvd & Hobson Way	10.3	B	22.9	C	12.6	No
4. Neighbours Blvd & I-10 WB Ramp	9.5	A	12.4	B	2.9	No
5. Neighbours Blvd & I-10 EB Ramp	9.6	A	20.2	C	10.6	No

NOTE: All are Unsignalized Intersections
WB = westbound; EB = eastbound

SOURCE: KOA Corporation, Traffic Impact Study Report, June 2013.

The 2015 without Project construction scenario would result in all study intersections operating at an LOS A, except Intersection 3 (Neighbours Boulevard and Hobson Way) during the p.m. peak hour which would operate an LOS B. The delays at the intersections would range from 8.6 to 10.3 seconds. Under the with Project construction scenario, all study area intersections would operate at an acceptable LOS (LOS A through C) except Intersection 3 (Neighbours Boulevard and Hobson Way), which would operate at an unacceptable LOS D. The intersection delays with Project construction would range from 9.0 to 28.9 seconds. Intersection 3 (Neighbours Boulevard and Hobson Way) during the AM peak hour would degrade from LOS A to LOS D (unacceptable level) and delays would increase from 9.2 to 28.9 seconds. The north and south bound movements are stop controlled while the east and westbound movement are free flowing. The impact is associated with the additional delay experienced from project vehicles waiting to make a northbound left turn movement.

Significant impacts to Intersection 3 during the a.m. peak hours may be reduced to less than significant levels with the implementation of Mitigation Measures TRA-1 and TRA-2, which would involve the staggering of the Project's construction workforce trips. If 7 percent of the workforce trips (30 trips) were staggered to non-peak hours, Intersection 3 would operate from an unacceptable LOS D (28.9 seconds delay) to acceptable LOS C (24.5 seconds delay). Truck trips would stay the same and would remain unchanged. Therefore with this mitigation, the Project's contribution towards temporary, significant impacts during Project construction would be reduced to less than significant levels.

Haul trucks would use dedicated truck routes within each jurisdiction, and would comply with all Caltrans permitting requirements when any truck loads are oversize. Caltrans has the discretionary authority to issue special permits for the movement of vehicles and/or loads exceeding statutory limitations on the size, weight, and loading of vehicles contained in the California Vehicle Code. The California Highway Patrol is notified about transportation of oversize and/or overweight loads.

Pedestrian and Bicycles

Pedestrian facilities and bicycle lanes currently do not exist throughout the proposed Project study area, and as such, no impacts to such facilities would occur.

Transit and Rail

The Project would not directly affect the ability of the Palo Verde Valley Transit Authority (PVVTA) to use any of the existing routes or stops, since road closures and detours are not anticipated for this Project. The Arizona and California Railroad is approximately 2.5 miles from the Project area; however, it does not service the Blythe area. Therefore, construction of the Project would not impact rail service.

Airport Service

Blythe Municipal Airport is a public airport, approximately 0.5 mile south of the proposed Project and serves Riverside County. The Blythe Municipal Airport does not have regularly scheduled passenger service, and delivery of construction materials is expected to occur by truck; therefore, construction of the Project would not result in an increase in airport service. Additionally, the Project would not utilize equipment that would create obstructions or impact operations at the Blythe Municipal Airport.

Conflict with Applicable Congestion Management Program or other Plans and Policies

The PVMSP proposes construction of a solar facility and gen-tie line that would not involve construction of new transportation facilities or substantial alteration of existing transportation facilities. There are no pedestrian or bicycle facilities in the vicinity of the proposed Project. Materials would be delivered via truck and would not utilize rail or air transportation services. As discussed above, Project construction traffic would not reduce the LOS of area facilities below LOS C. Therefore, construction of the proposed Project would not conflict with the Riverside County CMP.

Operation

The Project would generate minimal traffic during the operation and maintenance period. During operation and maintenance, the Project would require full-time employees to perform equipment inspection, testing, and repairs as well as other daily maintenance activities as necessary. Other maintenance activities would include sporadic, intermittent visits from other personnel and non-employees, including panel washing and on-site inspection during all energized electrical maintenance activities. Operation of the Project would require 12 permanent full-time employees,

which would not generate a significant number of trips above existing agricultural operations in the Project area. Operational personnel are anticipated to originate from the Blythe area or areas closer to the Project (such as Mesa Verde) due to proximity, travel length, and travel time for a typical permanent employee traveling to and from the site. Impacts to the traffic network would be less than significant.

Decommissioning

At the end of the Project's useful life, it would require decommissioning. Decommissioning activities would include removal of the solar facility and dismantling of the 230 kV gen-tie line. These activities would require similar types of equipment and a workforce that is similar to construction, but would be less than that of peak construction. It is anticipated that traffic and transportation impacts from decommissioning activities would be similar but less intense to that of construction, and that TRA-1 through TRA-2 would reduce significant impacts to a less than significant level.

Mitigation Measures

Implementation of Mitigation Measures TRA-1 and TRA-2 would mitigate Impact TRA-1 (see *Section 3.16.8* below).

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures TRA-1 and TRA-2.

Impact TRA-2: The Project would not conflict with an applicable congestion management program. This impact would be *less than significant with mitigation incorporated*.

Refer to TRA-1 above. As noted earlier, I-10 and Neighbours Boulevard (or SR-78) are the only CMP roadways in the Project study area. Riverside County has established LOS standards implemented by the RCTC, the County's CMA. The CMA has LOS standards and a documented CMP that is intended to regulate long-term traffic impacts due to existing and future development and do not apply to projects with a temporary life-span, as the case with the Project (30-year period, depending on permit extension). As discussed above, the construction and decommissioning activities associated with Project would generate the highest amount of traffic; however, the increase in traffic from these activities would be temporary, occurring within a 24- to 36-month period. Project construction and decommissioning traffic would not exceed a LOS standard established by the county or conflict with an applicable congestion management program on these roadways. Riverside County's CMP specifies that all CMP roadways operate at an LOS threshold of E. Based on the CMP, a significant traffic impact would occur: (1) when existing pre-Project LOS A, B, C, and D become LOS E or F with the Project; or (2) when the existing pre-Project LOS E becomes LOS F with the Project. The Riverside County Circulation Element Policy C2.1 states that the County must maintain a target LOS C along County-maintained roads and conventional state highways. Therefore, a significant local impact to the County would occur if the pre-Project (base) LOS A, B, or C roadway becomes LOS D, E or F.

With Project construction, all study area intersections would operate at an acceptable LOS (LOS A through C) except Intersection 3 (Neighbours Boulevard and Hobson Way), which would operate at an unacceptable LOS D. Significant impacts to Intersection 3 would occur however during the a.m. peak hours. Significant impacts to Intersection 3 may be reduced to less than significant levels with the implementation of Mitigation Measures TRA-1 and TRA-2, which would involve the staggering of the project's construction workforce trips. If 7 percent of the workforce trips (30 trips) were staggered to non-peak hours, Intersection 3 would operate from an unacceptable LOS D (28.9 seconds delay) to acceptable LOS C (24.5 seconds delay). With implementation of Mitigation Measure TRA-1 and TRA-2 and TRA-2, the Project would not conflict with an applicable congestion management program, including, level of service standards.

Operational Project impacts to traffic would be nominal.

Because the construction, operation, maintenance, and decommissioning of the Project would not result in any long-term impacts on CMP facilities, the impacts to the CMP roadway network and established programs would be less than significant.

Mitigation Measures

Mitigation Measures TRA-1 and TRA-2 would mitigate Impact TRA-2.

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures TRA-1 and TRA-2.

Impact TRA-3: The Project could result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; result in a change in air traffic levels or a change in location and result in substantial safety risks. This impact would be *less than significant with mitigation incorporated*.

Construction and Decommissioning

Construction and decommissioning of the Project would not increase airport traffic levels or result in a change in air traffic patterns. Additionally, the Project would not utilize equipment that would create obstructions or impact operations at the Blythe Municipal Airport. Please see 3.8, *Hazards and Hazardous Materials*, for additional information regarding obstructions or impacts to operations at the Blythe Municipal Airport.

Operations

The Project would be adjacent to the Blythe Municipal Airport and may create potential glare impacts and obstructions. Although solar panels are designed to absorb the sunlight, the panels have the potential to cause glare/reflection impacts to the Blythe Municipal Airport. Please refer to Section 3.1, Aesthetics, for a discussion regarding glare impacts to the Blythe Municipal Airport operations. As described in Section 3.8, *Hazards and Hazardous Materials*, it is anticipated that the Project would be a hazard to air navigation. Prior to construction, the Applicant must submit a Notice to Construct (FAA Form 7460-2) and receive authorization from

the FAA. Please see section 3.8, *Hazards and Hazardous Materials*, for additional information regarding obstructions or impacts to operations at the Blythe Municipal Airport. With implementation of Mitigation Measures HAZ-2 and HAZ-3, the Project would not change air traffic patterns, increase air traffic levels, or result in a change in location that would result in substantial safety risks per this criterion and no mitigation measures are recommended or required.

Mitigation Measures

Implementation of Mitigation Measures HAZ-2 and HAZ-3 would reduce adverse effects associated with Impact TRA-3 (see *Section 3.8.8*).

Significance after Mitigation

This impact would be less than significant with implementation of Mitigation Measure HAZ-2 and HAZ-3.

Impact TRA-4: The Project would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). This impact would be *less than significant with mitigation incorporated.*

Refer to Section 3.1, *Aesthetics*, for a discussion regarding potential glare impacts related to the solar panels. For impacts related to potential hazards and obstructions to Blythe Municipal Airport operations that would result from the operation of the 230 kV gen-tie line, refer to Section 3.8, *Hazards and Hazardous Materials*. The Project would not result in incompatible uses with adjacent or nearby agricultural operations (refer to Section 3.2, *Agriculture and Forestry Resources*). The Project would not change the roadway network, but truck trips associated with the construction and decommissioning of the proposed facilities on the Project site would temporarily change the mix of vehicle types on area roads. During construction and decommissioning activities, there would be work related to gen-tie and transmission lines that would occur within existing roadways. Traffic safety hazards could occur due to: (1) conflicts where construction vehicles access a public ROW from the Project area; (2) conflicts where road width is narrowed; or (3) increased truck traffic in general (and their slower speeds and wider turning radii) during construction, operation, maintenance, and decommissioning.

As described with respect to significance criterion a, above, the increase in peak-hour traffic volumes resulting from construction and decommissioning-related traffic generated by the Project would not be substantial relative to the background traffic volumes on roads used to access the site. However, impacts associated with the potential conflicts between Project-related traffic and all other travel modes would be considered potentially significant. Implementation of Mitigation Measure TRA-1 would minimize potential adverse traffic safety hazards on adjacent roadways due to Project-related activities and vehicle trips through the implementation of a Traffic Control Plan.

The Project and its facilities would not result in an increase in hazards due to a design feature once built and operational. The minimal amount of traffic associated with operation and maintenance activities at the Project site would not be substantial relative to background traffic

volumes on roads used to access the site, and would not result in any adverse traffic hazards on adjacent roadways. Therefore, impacts to traffic hazards during operation and maintenance activities would be less than significant.

Mitigation Measures

Mitigation Measures TRA-1 and TRA-2 would reduce adverse effects associated with TRA-4.

Significance after Mitigation

This impact would be less than significant after implementation of Mitigation Measures TRA-1 and TRA-2.

Impact TRA-5: The Project would not result in inadequate emergency access or result in the need for new or altered maintenance of roads. This impact would be *less than significant.*

Construction and Decommissioning

No road closures are anticipated during construction or decommissioning of the Project, so impacts to emergency access are not anticipated. Significant impacts regarding emergency access are not anticipated.

Operations

Areas with proposed solar panels would be fenced in and the Applicant would enter into a Franchise Agreement with the County of Riverside to close existing dirt access roads, which include portions of Megin Avenue, Rannels Boulevard, Dave Street, Keim Boulevard, 7th Avenue, and 8th Avenue. Access along Buck Boulevard would remain open, and all existing roadways along the perimeter of the project site would also remain open for public access. Operation of the Project would not affect emergency access in the Project area. Implementation of BMP-5 would ensure that fire and emergency responders are informed about emergency access within the solar facility site and new interior access roads within are designed and constructed with the appropriate road design standards.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

Impacts would be less than significant.

Impact TRA-6: The Project could conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. This impact would be *less than significant.*

During construction and decommissioning, workers would park personal vehicles on site, where adequate parking space would be provided. As discussed in BMP-15, parking lots would be designed and constructed with appropriate design standards. The anticipated construction activities would not eliminate any existing parking spaces and result in parking deficiencies. Heavy equipment would be parked and maintained at construction sites, and all utility trucks

would park in the construction yards. There would be sufficient parking for all employees, visitors, service vehicles, and contractors on site during the construction, operation and maintenance, and decommissioning of the Project.

Pedestrian and bicycle facilities currently do not exist in the proposed Project study area. The existing pedestrian network does not currently provide sidewalks connecting adjoining land uses along Neighbours Boulevard, Riverside Drive, and Hobson Way. Bus service is offered by the PVVTA and Routes 3, 4, and 5 travel along Hobson Way, which passes through the Project vicinity and heads west towards Mesa Verde. During construction and decommissioning activities, the Project may increase travel times as discussed above. Although portions of roads within the solar facility site would be closed, the PVMSP would not impact the circulation network in the Project study area.

Within the solar facility site, the proposed solar panels would be fenced in and the Applicant would enter into a franchise agreement with the County of Riverside to close existing dirt access roads, which include portions of Megin Avenue, Rannels Boulevard, Dave Street, Keim Boulevard, 7th Avenue, and 8th Avenue. However, access along Buck Boulevard would remain open and accessible.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

3.16.7 Cumulative Impacts

The cumulative projects located within the vicinity of the Project area are listed in **Table 3.16-5**. The geographic scope of the cumulative analysis for traffic and transportation includes the roadways and intersections in the vicinity of the Project area that may be directly or indirectly impacted by construction traffic generated by the proposed Project, which include I-10 and five study intersections. The City of Blythe did not identify any development projects that would add traffic to the intersections analyzed in the study. The County of Riverside identified seven projects listed below that could be constructed simultaneously with the proposed Project.

Projects that would not contribute traffic trips to the five study intersections during the construction of the proposed Project were not analyzed. For example, the approved McCoy Solar Energy Project would utilize the Mesa Interchange; therefore, it would not impact the four study intersections. The Blythe Solar Power Project recently released a Notice of Intent; as such, it is very unlikely that construction of this project and the proposed Project would occur simultaneously. It is anticipated that the Desert Quartzite project, which is similar in size and scope as the proposed Project, would require the preparation of an environmental document. To date, the Desert Quartzite project has not issued a Notice of Intent or Notice of Preparation. After issuance of a notice, the preparation of an environmental document may take approximately 12 to

18 months; therefore, peak construction of Desert Quartzite and the Blythe Mesa Solar Project occurring simultaneously is very unlikely.

TABLE 3.16-5
CUMULATIVE PROJECTS INCLUDED IN TRAFFIC ANALYSIS

Project Name/Applicant	Project Description	Status
Solar/Electric Generating Projects		
Blythe Airport Solar I Project (U.S. Solar EA # 42340)	100 MW photovoltaic power plan on 640 acres in five- 20 MW phases that includes a 3,200 ft long 33 kV generation tie.	Approved
Blythe Energy Project II	520 MW combined-cycle power plant located entirely within the Blythe Energy Project site boundary. Blythe Energy Project II will interconnect with the Buck Substation constructed by WAPA as part of the Blythe Energy Project. Project is designed on 20 acres of a 76-acre site.	Approved
Blythe Mesa Solar Project	485 megawatt (MW) alternating current solar photovoltaic (PV) electrical generating facility and associated infrastructure	Approved
County of Riverside Projects		
PM33797	Schedule H: Divide 2.14 acres into 2 single family residential parcels	Planned
PM34400	Schedule H: Divide 80 acres into 2 single family residential	Planned
PM34759	Schedule H: Divide 34 acres into 3 parcels	Planned
PP23885	Church with accessory outdoor recreation/amphitheater 8,890 square feet Church	Planned

SOURCE: KOA Corporation, Traffic Impact Study Report, June 2013.

Should the peak construction schedules of the cumulative projects listed in Table 3.16-5 overlap, construction traffic from these projects would result in increased traffic within several miles or more along I-10 and regional roadways. As shown in the table above, these projects are in different stages; some have been approved or are in the initial stages, and are tracking on separate schedules. Therefore, it is very unlikely that peak construction of these projects would occur simultaneously. As a conservative analysis, peak construction traffic from these cumulative projects was added to 2015 projected traffic (existing plus ambient growth). This resulted in a 2015-year Cumulative without Project scenario.

The Project's construction phases would produce the highest amount of traffic; the operational traffic would be similar to existing conditions. Therefore, the temporal scope of the cumulative impacts for the proposed Project would occur during the construction phase (between 2013 and 2016), with the highest-intensity period occurring in 2014 and 2015. As a conservative cumulative traffic analysis, the Year 2015 was determined to represent the highest traffic volumes for cumulative impacts as a result of the proposed Project.

Although it is very unlikely that the peak construction periods of multiple projects would coincide, as a conservative approach, the cumulative conditions represented below analyze the worst-case scenario**.** This addresses uncertainty about the timing of construction of other cumulative projects. It is very likely that the cumulative projects would track along different

schedules from the proposed Project and peak construction would likely not occur at the same time. For example, the Blythe Energy Project II was approved in 2005, the Blythe Airport Solar I Project was approved in 2010, and the Palo Verde Mesa Solar Project is in the initial stages of planning (Notice of Preparation issued in 2012). There may be some overlap in overall construction schedules (peak and non-peak) for a few cumulative projects and the LOS may decrease, but it would be temporary.

Construction

The worst-case scenario would involve concurrent peak construction of all the cumulative projects listed above. **Table 3.16-6**, Cumulative Intersection Conditions, lists the anticipated delays and LOS conditions that would result with peak construction of the cumulative projects (Cumulative 2015) with and without Project construction during the a.m. and p.m. peak hours. **Table 3.16-7**, Cumulative Contribution, lists each project's contribution (trips and percentage) to the total cumulative trips at the four study intersections during the a.m. and p.m. peak hours. **Figures 3.16-2** and **3.16-3** illustrate the Cumulative with and without Project traffic movements during the a.m. and p.m. peak hours. Under the Cumulative scenario (addition of up to 874 cumulative trips), Intersection 1 (Buck Boulevard and Hobson Way) would operate at an acceptable LOS (LOS A to C) and would not be considered significant; further, the Project's incremental contribution to traffic during construction would not be cumulatively considerable. The proposed Project would be a considerable contributor to significant cumulative traffic impacts at the following four study intersections however:

- Intersection 2 (Neighbours Boulevard and Riverside Drive)
    - During the AM peak hour would degrade from LOS C to LOS E (unacceptable level) and delays would increase from 16.4 to 40.1 seconds. The major contributors to cumulative impacts at this intersection include the proposed project (43%) and Blythe Mesa Solar Project (54%). The Project's incremental contributions to the cumulative scenario would therefore be cumulatively considerable (significant).
- Intersection 3 (Neighbours Boulevard and Hobson Way)
    - During the AM peak hour would degrade from LOS C to LOS F (unacceptable) and delays would increase from 15.7 to 187.6 seconds (3.1 minutes). The major contributors to cumulative impacts at this intersection for the AM peak hour include the proposed project (59%), Blythe Mesa Solar Project (24%) and Blythe Energy (12%). The Project's incremental contributions to the cumulative scenario would therefore be cumulatively considerable (significant).
    - During the PM peak hour would degrade from LOS C to LOS F (unacceptable) and delays would increase from 17.0 to an overflow condition. The major contributors to cumulative impacts at this intersection in the PM peak hour include the proposed project (59%), Blythe Mesa Solar Project (24%), and Blythe Energy (12%). The Project's incremental contributions to the cumulative scenario would therefore be cumulatively considerable (significant).
- Intersection 4 (Neighbours Boulevard and I-10 Westbound Ramps)

- During the AM peak hour would degrade from LOS B to LOS D (unacceptable level) and delays would increase from 11.3 to 26.2 seconds. The major contributors to cumulative impacts at this intersection include the proposed project (49%) and Blythe Mesa Solar Project (49%). The Project's incremental contributions to the cumulative scenario would therefore be cumulatively considerable (significant).

- Intersection 5 (Neighbours Boulevard and I-10 Eastbound Ramps)
  - During the PM peak hour would degrade from LOS C (unacceptable level) to LOS F and delays would increase from 17.4 to 126.5 seconds (2.1 minutes). The major contributors to the cumulative impacts at this intersection include the proposed project (38%) and Blythe Mesa Solar Project (49%). The Project's incremental contributions to the cumulative scenario would therefore be cumulatively considerable (significant).

TABLE 3.16-6
2015 CUMULATIVE INTERSECTION CONDITIONS

	Without Project		With Project Construction			
Intersection	**Delay**	**LOS**	**Delay**	**LOS**	**Delay (seconds)**	**Cumulatively Considerable**
AM Peak Hour						
1. Buck Boulevard & Hobson Way	9.3	A	9.6	A	0.3	No
2. Neighbours Blvd & Riverside Dr	16.4	C	40.1	**E**	23.7	**Yes**
3. Neighbours Blvd & Hobson Way	15.7	C	187.6	**F**	171.9	**Yes**
4. Neighbours Blvd & I-10 WB Ramp	11.3	B	26.2	**D**	14.9	**Yes**
5. Neighbours Blvd & I-10 EB Ramp	11.3	B	14.6	B	3.3	No
PM Peak Hour						
1. Buck Boulevard & Hobson Way	10.2	B	20.7	C	10.5	No
2. Neighbours Blvd & Riverside Dr	10.5	B	13.2	B	2.7	No
3. Neighbours Blvd & Hobson Way	17.0	C	Overflow	**F**	N/A	**Yes**
4. Neighbours Blvd & I-10 WB Ramp	13.3	B	20.0	C	6.7	No
5. Neighbours Blvd & I-10 EB Ramp	17.4	C	126.5	**F**	109.1	**Yes**

NOTE: *Unsignalized Intersection
Bold font represents unacceptable LOS levels.

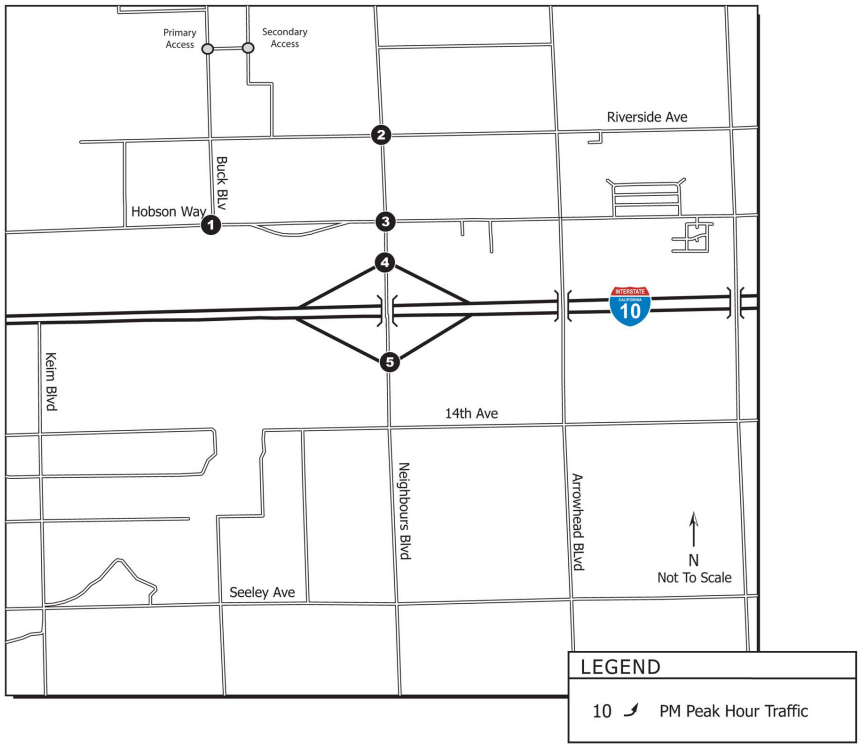
SOURCE: KOA Corporation, Traffic Impact Study Report, June 2013.

TABLE 3.16-7
CUMULATIVE CONTRIBUTION (YEAR 2015)*

Intersections	Blythe Mesa		Palo Verde		Blythe Energy		Blythe Airport Solar		Other Cumulative Projects		Ambient Growth		Total Cumulative Trips
	Trips	% of Total	Trips	% of Total	Trips	% of Total	Trips	% of Total	Trips	% of Total	Trips	% of Total	
AM Peak Hour													
1. Buck Boulevard & Hobson Way	0	0%	291	97%	0	0%	0	0%	0	0%	10	3%	**301**
2. Neighbours Boulevard & Riverside Drive	172	54%	138	43%	0	0%	3	1%	8	3%	0	0%	**321**
3. Neighbours Boulevard & Hobson Way	172	24%	429	59%	90	12%	3	0%	11	2%	21	3%	**726**
4. Neighbours Boulevard & I-10 WB Ramp	348	40%	429	49%	75	9%	2	0%	7	1%	13	1%	**874**
5. Neighbours Boulevard & I-10 EB Ramp	312	67%	135	29%	3	1%	2	0%	5	1%	12	3%	**469**
PM Peak Hour													
1. Buck Boulevard & Hobson Way	0	0%	291	97%	0	0%	0	0%	0	0%	10	3%	**301**
2. Neighbours Boulevard & Riverside Drive	172	53%	138	43%	0	0%	3	1%	10	3%	0	0%	**323**
3. Neighbours Boulevard & Hobson Way	172	24%	429	59%	90	12%	3	0%	11	2%	21	3%	**726**
4. Neighbours Boulevard & I-10 WB Ramp	252	32%	429	55%	75	10%	3	0%	9	1%	15	2%	**783**
5. Neighbours Boulevard & I-10 EB Ramp	376	49%	295	38%	72	9%	2	0%	5	1%	18	2%	**768**

* The cumulative contribution percentages for the projects were rounded; therefore, the sum of the percentages may not equal 100 percent.

SOURCE: KOA Corporation, Traffic Impact Study Report, June 2013.



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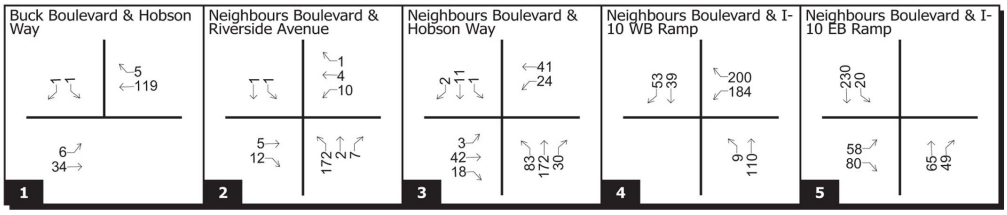

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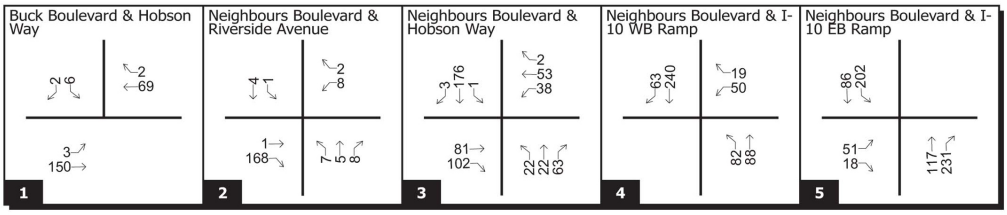
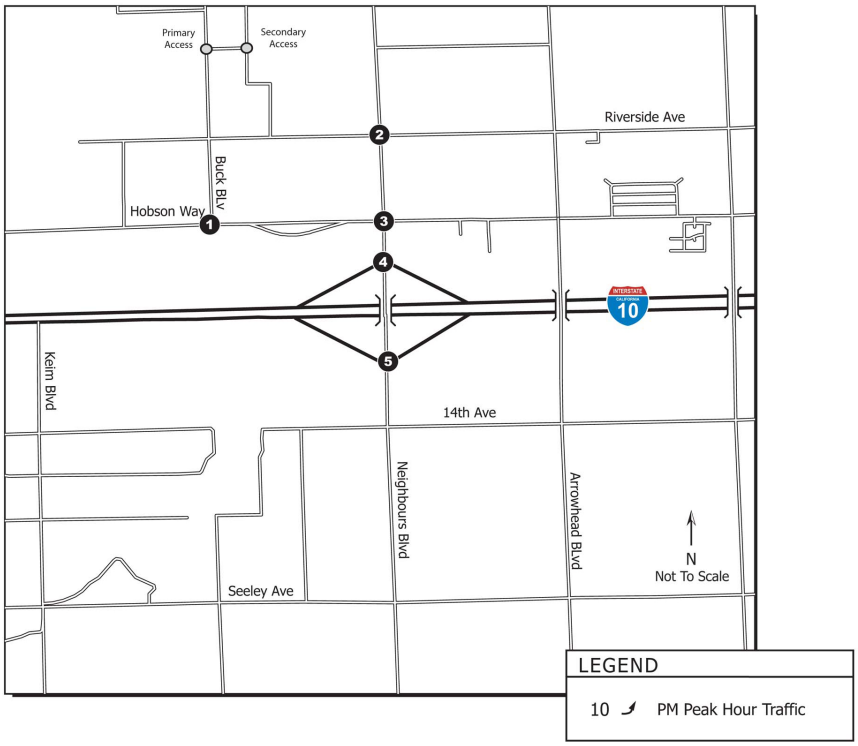


SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.16-2
Cumulative Without Project
Peak Hour Traffic Movements



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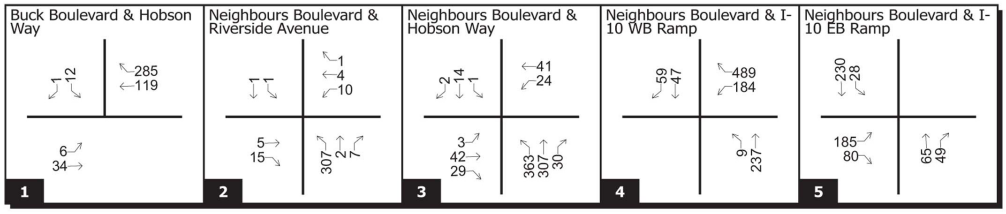

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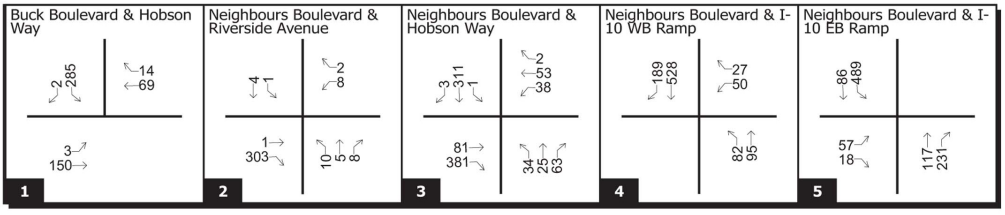

SOURCE: POWER Engineers

Palo Verde Mesa Solar Project . 150379

Figure 3.16-3
Cumulative With Project
Peak Hour Traffic Movements

Intersection 3 (Neighbours Boulevard and Hobson Way) during the p.m. peak hour would exhibit an overflow condition, because these intersections experience a high increase of traffic demand and cannot handle all the traffic, which causes excessive movement delays. Assuming a constant arrival rate and capacity, the intersection oversaturates and the system results in a non-equilibrium state, and the intersection delays increases constantly. The excessive delay occurs at the stop-controlled movements (northbound and southbound). The vehicles traveling northbound (34 left turn, 25 through, 63 right turn) and southbound (1 left turn, 311 through, 3 right turn) are waiting to find gaps in the uncontrolled traffic flow (eastbound and westbound movements) on Hobson Way, refer to Figure 3.16-2 *Cumulative Without Project Peak Hour Traffic Movements*. These movements however are carrying a considerable amount of traffic; (81 through, 381 right turn) eastbound and (38 left turn, 53 through, right turn) westbound; which does not allow many gaps in the traffic flow causing the northbound and southbound movements to wait a longer period of time for gap opportunities therefore creating the excessive delay. The Project's incremental contributions to the cumulative scenario would therefore be cumulatively considerable (significant) during the temporary construction period.

The impacts discussed above are related to the construction of numerous solar projects, which is considered temporary. The operational trips related to the solar projects are substantially less than construction. For example, the proposed Palo Verde Mesa Solar project would require 12 permanent full-time employees in comparison to the anticipated 500 workers required for peak construction. Therefore, it is anticipated that the LOS for all five study intersection would be restored back to preconstruction conditions once construction of these projects are completed.

Comparison of Existing (2011), Anticipated 2015, and Cumulative (2015) Scenarios

Of the five study intersections, Intersection 1 (Neighbours Boulevard and Buck Boulevard) would receive the slightest increase in cumulative traffic (301 trips during the AM peak hour and PM peak hour). With Project construction, this intersection would operate at an acceptable LOS. Accordingly, there is no significant cumulative impact to this intersection.

Intersection 4 (Neighbours Boulevard and I-10 Westbound Ramp) would experience the greatest increase in cumulative trips (874 trips during the AM peak hour and 783 trips during the PM peak hour). However, this intersection would operate at acceptable LOS during the PM peak hour (degrade from LOS B to LOS C). Accordingly there is no significant cumulative impact. During the AM peak hour, traffic flow would degrade from LOS B to LOS D; delays at this intersection would increase from 11.3 to 26.2 seconds. This is a significant cumulative impact. The proposed Project would be a considerable contributor to this cumulative impact, adding approximately 49 percent of the cumulative traffic.

Of the five study intersections, Intersection 3 (Neighbours Boulevard and Hobson Way) during the AM peak hour would experience the greatest decrease in LOS—it would degrade from LOS C to LOS F with peak construction of the Project. This is a significant cumulative impact. North and south movements on Neighbours Boulevard are stop-controlled while eastbound and westbound movements on Hobson Way are free-flowing. Due to the northbound and southbound being stop-controlled, vehicles at these movements need to wait for large gaps to make a movement. During the AM peak hour the majority of the traffic occurs on the northbound

movement (700 trips). Since the north and southbound movements are stop-controlled, an approach delay of 187.6 (3.1 minutes) is experienced resulting in an LOS F (unacceptable level). The proposed Project would contribute approximately 59 percent of the cumulative traffic at this intersection; it would be a considerable contributor to cumulative traffic impacts.

The cumulative scenario for Intersection 5 (I-10 Eastbound Ramp and Neighbours Boulevard) during the PM peak hour would experience the greatest delays of the five intersections; it would operate at acceptable LOS B during the AM peak hour. Accordingly, cumulative impacts to this intersection would be less than significant during the AM peak hour. The 2015 Cumulative without Project scenario would add 473 trips to Intersection 5 during the PM peak hour and would operate at LOS C with intersection delays of 17.4 seconds. The Cumulative with Project scenario would add another 295 trips (768 total cumulative trips) and degrade to LOS F with intersection delays of 126.5 second (2.1 minutes). This is a significant cumulative impact during the PM peak hour. The proposed Project would contribute approximately 38 percent of the cumulative traffic; it would be a considerable contributor to cumulative traffic impacts.

With implementation of Mitigation Measure TRA-3, which requires coordination with other proponents of solar projects and staggering of construction traffic to non-peak hour periods, the Project's cumulatively considerable contributions to significant cumulative traffic impacts would be reduce to less than considerable levels. **Table 3.16-8** Intersection Analysis summarizes the percentage of cumulative trips required for each intersection to operate at acceptable LOS (LOS C or better). By staggering 25 percent of the cumulative trips, all intersections during the a.m. peak hour would operate at acceptable LOS, except Intersection 3 (Neighbours Boulevard and Hobson Way); during the p.m. peak hour, all intersections would operate at an acceptable LOS, except Intersections 3 (Neighbours Boulevard and Hobson Way) and Intersection 5 (Neighbours Boulevard). Approximately 45 percent of the cumulative trips would need to be staggered for Intersections 3 (Neighbours Boulevard and Hobson Way) and Intersection 5 (Neighbours Boulevard and I-10 Eastbound Ramp) to operate at acceptable LOS levels. The Project's fair share of this 25 and 45 percent of the cumulative trips, respectively, would be coordinated with other proponents of solar projects, per Mitigation Measure TRA-3.

Based on the short-term nature of construction, any increase in vehicle trips and transportation-related impacts would be temporary. However, during that time, the Project could result in a cumulatively considerable contribution to traffic impacts to the surrounding road network. Implementation of BMP-4, BMP-14, and BMP-15 and Mitigation Measure TRA-1 through TRA-3 would reduce the Project's construction-related contribution to cumulative traffic impacts to a less-than-cumulatively considerable level.

TABLE 3.16-8
INTERSECTION ANALYSIS SUMMARY

		Cumulative with Project							
		No Staggered Trips		25% Staggered Trips		30% Staggered Trips		45% Staggered Trips	
Intersection	Trips	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
AM Peak Hour									
1. Buck Boulevard & Hobson Way	301	A	9.6	A	9.4	A	9.4	A	9.3
2. Neighbours Boulevard & Riverside Drive	321	**E**	40.1	C	22.9	C	20.7	C	16.3
3. Neighbours Boulevard & Hobson Way	726	**F**	187.6	**F**	63.9	**E**	47.2	C	24.0
4. Neighbours Boulevard & I-10 WB Ramp	874	**D**	26.2	C	15.1	B	14.1	B	12.1
5. Neighbours Boulevard & I-10 EB Ramp	469	B	14.6	B	12.5	B	12.1	B	11.3
PM Peak Hour									
1. Buck Boulevard & Hobson Way	301	C	20.7	C	15.0	B	14.3	B	12.7
2. Neighbours Boulevard & Riverside Drive	323	B	13.2	B	11.5	B	11.2	B	10.5
3. Neighbours Boulevard & Hobson Way	726	**F**	Overflow	**E**	43.2	**D**	34.6	C	22.3
4. Neighbours Boulevard & I-10 WB Ramp	783	C	20.0	C	15.5	B	14.9	B	13.3
5. Neighbours Boulevard & I-10 EB Ramp	768	**F**	126.5	**E**	37.2	**D**	30.8	C	21.0

SOURCE: KOA Corporation, Traffic Impact Study Report, June 2013.

Operation and Maintenance

Project operation would result in a nominal increase in traffic and would generate substantially less traffic than construction activities and the cumulative projects that would utilize the same intersections would similarly have a limited workforce for operations. No adverse impacts would occur due to traffic generated during the operation phase of the Project (Impacts TRA-1 and TRA-2). Therefore, the Project's operation-related contribution to cumulative traffic impacts would be less than cumulatively considerable.

Decommissioning

Decommissioning impacts from the Project would have similar impacts as construction. It is very unlikely that decommissioning of all cumulative projects would occur at the same time; however, it is assumed that decommissioning impacts from the cumulative projects would be similar to construction, but would be less intense and of a shorter duration (Impacts TRA-1, TRA-2 and TRA-3). Based on the short-term nature of decommissioning, any increase in vehicle trips and transportation-related impacts would be temporary. However, during that time, the Project could result in a cumulatively considerable contribution to traffic impacts to the surrounding road network. Implementation of BMP-4, BMP-14, and BMP-15 and Mitigation Measure TRA-1 through TRA-3 would reduce the Project's decommissioning-related contribution to cumulative traffic impacts to a less-than-cumulatively considerable level.

Mitigation Measures

Implementation of Mitigation Measures TRA-1 through TRA-3 would mitigate Cumulative Impacts (see *Section 3.16.8* below).

Significance after Mitigation

Cumulative impacts would be less than significant after implementation of Mitigation Measures TRA-1 through TRA-3.

3.16.8 Mitigation Measures

TRA-1 A construction phase Traffic Management Plan would be prepared in consultation with Caltrans and Riverside County for the roadway network potentially affected by construction activities at the Project area and off-site gen-tie line facilities. In order to achieve acceptable LOS, the Traffic Management Plan would include a plan to split the workforce and stagger arrival times during peak construction periods along with a traffic LOS and queue monitoring program, as determined necessary by the County's Transportation Department staff. The plan would be based upon the analysis set forth in this EIR. Carpooling shall also be required of contractor employees during the construction phase to help achieve acceptable LOS levels. In addition to the above-mentioned measures, other approaches could be considered to reduce peak hour traffic, such as requiring contractors to arrange employee busing and/or employee participation in park and ride.

TRA-2 The contractor would conduct construction activities in accordance with Caltrans' applicable limitations on vehicle sizes and weights, Construction Excavation Permits obtained from Riverside County, Encroachment Permits from Caltrans, and permits and licenses from the California Highway Patrol and Caltrans for the transport of hazardous substances.

TRA-3 Construction traffic coordination shall be required to address potential cumulative traffic issues associated with concurrent construction of several large projects with large workforces, approximately from 2015 through 2017. The Applicant shall coordinate construction traffic with applicable traffic management (e.g., Caltrans, Riverside County, and City of Blythe) as well as BLM representatives, as determined appropriate and necessary by the listed agencies. The Applicant shall also coordinate construction traffic with other proponents of renewable energy projects in the I-10 corridor. Cumulatively considerable projects shall be identified and the appropriate staggered arrival times or other approaches (such as busing, park and ride, or carpooling) will be prescribed to achieve an acceptable LOS.

CHAPTER 4
Other CEQA Considerations

4.1 Significant and Unavoidable Environmental Impacts

As required by CEQA Guidelines Section 15126.2(b), an environmental impact report (EIR) must describe any significant impacts that cannot be avoided, including those impacts that can be mitigated but not reduced to a less than significant level. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons the project is being proposed, notwithstanding their effect, should be described. Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, of this DEIR describes the potential environmental impacts of the proposed Project and recommends mitigation measures to reduce impacts, where feasible. As discussed in this DEIR, implementation of the proposed Project would result in potential impacts that would be mitigated to a less than significant level with implementation of mitigation measures for aesthetics, agriculture, air quality, biological resources, cultural resources geology and soils, greenhouse gas emissions, hazards and hazardous materials, land use, noise, paleontology, population and housing, public services and utilities and hydrology and water quality, recreation, and traffic and transportation. There are no significant and unavoidable impacts identified in this DEIR.

4.2 Irreversible and Irretrievable Commitments of Resources

CEQA Guidelines Section 15126.2 requires a discussion of any irreversible or irretrievable commitments of resources that would be caused by implementation of a proposed project or alternative.

Resources irreversibly or irretrievably committed to a proposed project are those used on a long-term or permanent basis. This includes the use of nonrenewable resources such as metal, wood, fuel, paper, aggregate, and other natural resources. These resources are considered irretrievable in that they would be used for a proposed action when they could have been conserved or used for other purposes. Another irreversible or irretrievable commitment of resources is the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment.

Construction of the proposed Project or alternatives would commit nonrenewable resources during Project construction and ongoing utility services during Project operations. During Project

operations, oil, gas, and other nonrenewable resources would be consumed for maintenance purposes, although on a limited basis. See Section 4.4, *Energy Consumption*, for more information.

After 30 years, the Project could be decommissioned and the land will be available for reversion to agricultural use. The Applicant would prepare an Agricultural Reclamation Plan that details procedures for returning the existing solar facility site to a condition to support agricultural production at the end of the useful life of the solar facility or the expiration of the Conditional Use Permit. This would allow for the retrieval of some of the resources on site that could be eligible for reclassification from non-agricultural lands to the original Farmland classification. Also, in the event that the Project is decommissioned, some of the resources on site could be retrieved (e.g., agriculture, soil, and natural hydrologic function).

The Project is a renewable energy project intended to generate solar energy to reduce reliance on fossil fuels. Over the 30-year life of the Project, this renewable energy project would contribute incrementally to the reduction in demand for fossil fuel used to generate electricity, thereby resulting in a positive effect counteracting the commitment of nonrenewable resources to the Project.

4.3 Growth-inducing Impacts

A project is considered growth-inducing if it can foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment (CEQA Guidelines Section 15126.2(d)). This definition includes projects that would remove obstacles to population growth, such as by extending public services into areas not previously served. Growth inducement can also be defined as an action that would encourage an increase in density of development in surrounding areas or encourage adjacent development. According to CEQA Guidelines Section 15126.2(d), growth should not be assumed to be beneficial, detrimental, or of little significance to the environment.

Construction is anticipated to occur over a three-year period with construction activities occurring simultaneously; peak construction would occur over 24 months. The solar array field would be developed in six-month phases, with six blocks constructed at a time (each block 100 acres, for a total of 600 acres at a time). Construction of the substations, gen-tie line, switchyard, and O&M buildings would occur as the arrays are being assembled. Approximately 300-500 daily workers would be present on-site during peak construction. Worker construction traffic would consist of approximately 250-400 daily vehicle roundtrips (300 employees would travel alone, and 200 employees would carpool). As discussed in Section 3.13, *Population and Housing*, the construction workforce for the Project would be found locally and no in-migration would occur that would trigger the need for new housing. The majority of the projected construction workforce is anticipated to commute daily to the Project site. Others are expected to stay in temporary housing during the week and commute home over the weekend. After completion of construction, operation of the solar facility would require 12 full-time personnel. The proposed Project is located within an unincorporated area of Riverside County and does not involve the

development of a residential component that would result in direct population growth in the area. Additionally, the Project would not involve the development of any new roadways, water systems, or sewer systems. Infrastructure improvements to serve the Project would be limited and would not be available to serve surrounding areas. As such, the proposed Project would not induce substantial population growth in the area.

Additionally, the proposed Project would not induce population growth because:

1) The additional energy would be used to ease the burdens of meeting existing energy demands within and beyond the area of the Project;
2) The energy would be used to support already-projected growth;
3) The energy produced would be used to offset the use of fossil fuels to meet California's Renewable Portfolio Standard and Executive Order S-14-08; and
4) The factors affecting growth are so multifarious that any potential connection between additional energy production and growth would necessarily be too speculative and tenuous to merit extensive analysis.

4.4 Energy Consumption

CEQA Section 21100(b) requires that an EIR discuss and consider mitigation measures for the potential energy impacts of proposed projects, with emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the CEQA Guidelines provides guidance for assessing the significance of potential energy impacts. It provides three means of achieving its ultimate goal of conserving energy:

1. Decreasing overall per capita energy consumption;
2. Decreasing reliance on natural gas and oil; and
3. Increasing reliance on renewable energy sources.

Consistent with Appendix F of the CEQA Guidelines, potential environmental impacts evaluated in this section include:

1. The Project's energy requirements by amount and fuel type for each stage of the Project including construction, operation, maintenance, and decommissioning;
2. The effects of the Project on energy resources, local and regional energy supplies, and requirements for additional capacity;
3. The effects of the Project on peak and base period demands for electricity and other forms of energy;
4. The degree to which the Project complies with existing energy standards; and
5. The Project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

4.4.1 California's Energy System

Electricity

With a relatively mild Mediterranean climate and strict energy efficiency and conservation requirements, California has lower energy consumption rates per capita than other parts of the country. For example, in 2013, California's per capita energy consumption ranked 48th in the nation. In addition, California has the second lowest annual electrical consumption rate per person with average site electricity consumption in California homes being 6.9 megawatt hours per year. Nevertheless, with a population of 38.8 million people, California residents consume approximately 10 percent of the nation's total energy produced and its total energy demand is second only to Texas (USEIA, 2015).

The production of electricity requires the consumption or conversion of energy resources including water, wind, oil, gas, coal, solar, geothermal, and nuclear sources. In 2014, California produced 100 percent of the electricity it uses. Total system power for California was 293,268 gigawatt-hours (GWh), about 1 percent lower than 2013 Of the electricity generated in California, 61.3 percent is generated by natural gas-fired power plants, 0.5 percent is generated by coal-fired power plants, 8.3 percent comes from hydroelectric dams, and 12 percent comes from nuclear power plants. The remaining 21.3 percent in-state total electricity production is supplied by renewable sources including solar and wind power (CEC, 2015a).

Natural gas supplies the largest portion of California's electricity market, accounting for more than half of California's electricity generation; however, California's natural gas gross production has experienced a gradual overall decline in the past two decades. Reserves and production are located primarily in geologic basins in the Central Valley, the coastal basins onshore in Northern California, and offshore along the Southern California coast. California production accounts for a very small percentage of total U.S. natural gas production and satisfies about one-tenth of state demand (USEIA, 2015).

California's Renewable Portfolio Standard (RPS) requires retail electricity sellers, including publicly owned utilities (POUs), to procure 50 percent of retail sales per year from eligible renewable sources by 2030. Currently, California's in-state renewable generation is comprised of biomass, geothermal, small hydro, wind, and solar generation sites that make up approximately 22.5% of the total in-state generational output. California receives 1.2 percent of electricity from small hydroelectric generation, 3.4 percent from biomass, 6.1 percent from geothermal, 5.3 percent from solar, and 6.5 percent from wind (CEC, 2015a). California is among the top states in the nation, typically second after Washington, in net electricity generation from renewable resources. A top producer of electricity from conventional hydroelectric power, California is also a leader in net electricity generation from several other renewable energy sources, including geothermal, solar, wind, and biomass (USEIA, 2015). The electricity generated and used in California is distributed via a network of transmission and distribution lines commonly called the power grid.

Petroleum

Even though California's crude oil production has declined overall in the past 25 years, it is one of the top producers of crude oil in the nation, accounting for more than 7 percent of total U.S. production. Petroleum reservoirs in the geologic basins along the Pacific Coast and in the Central Valley contain large crude oil reserves. The most prolific oil-producing area is the San Joaquin basin in the southern half of the Central Valley. California ranks third in the nation in petroleum refining capacity and accounts for more than one-tenth of the total U.S. capacity. A network of crude oil pipelines connects the state's oil production to the refining centers located in the Central Valley, Los Angeles, and the San Francisco Bay area. California refiners also process large volumes of Alaskan and foreign crude oil received at ports in Los Angeles, Long Beach, and the Bay Area. Crude oil production in California and Alaska has declined, and California refineries have become increasingly dependent on foreign imports to meet the state's needs. Led by Saudi Arabia, Ecuador, Iraq, and Colombia, foreign suppliers now provide more than half of the crude oil refined in California (USEIA, 2015).

Petroleum-based fuels account for 96 percent of the state's transportation needs. The dependence on a single type of transportation makes Californians vulnerable to petroleum price spikes. Transportation is the largest emitter of greenhouse gases. The state is now at work developing flexible strategies to reduce petroleum use. It is developing alternative transportation fuels to reduce air pollution and greenhouse gas emissions.

Most crude oil produced in California is refined within California to meet state-specific formulations required by the California Air Resources Board (ARB). The major categories of petroleum fuels are gasoline and diesel for passenger vehicles, transit, rail vehicles, and construction equipment; and fuel oil for industry and electrical power generation.

In 2013, California consumed approximately 628.7 million barrels (approximately 26 billion gallons) of petroleum (USEIA, 2015). Most of this is used in on-road motor vehicles. To meet transportation-related energy demand, the state relies almost exclusively on petroleum products.

4.4.2 Local Energy Systems

Southern California Edison

Electrical services in the Project area are provided by Southern California Edison (SCE). SCE provides electricity to approximately 15 million people, 5,000 large businesses, and 280,000 small businesses throughout its 50,000-square-mile service area, which includes 180 incorporated cities across 15 counties in central coastal and southern California (SCE, 2016).

SCE produces and purchases its energy from a mix of conventional and renewable generating sources. **Table 4-1** shows the electric power mix that was delivered to SCE’s retail customers in 2014.

SCE provides electricity in the vicinity of the Project site but no electricity currently is available on-site. If distribution to the site is determined to be feasible, electric service could be extended to the site via a distribution power line that would be constructed, owned, and operated by SCE.

TABLE 4-1
ELECTRIC POWER MIX DELIVERED TO SCE RETAIL CUSTOMERS IN 2014

Power Source	Percent (%) of Total Power Mix Delivered
Natural Gas	27
Nuclear	6
Coal	0
Large Hydroelectric	3
Other Fossil Fuels	0
Unspecified Sources	40
Eligible Renewables (24%):	
Geothermal	9
Wind	10
Biomass and Waste	1
Small Hydroelectric	0
Solar	4

SOURCE: CEC, 2015b

4.4.3 Energy Conservation Standards

State

California Senate Bill X1-2 is the most recent update to the state's Renewables Portfolio Standard (RPS) requirements, and requires POUs and retail sellers of electricity in California to procure 20 percent of their electricity sales from eligible renewable sources by 2013, and 50 percent by the end of 2030.

Title 24, Part 6 of the California Code of Regulations is the California Energy Code, a section of the California Building Code (CBC) that includes standards mandating energy conservation measures in new construction for heating, cooling, ventilation, water heating, and lighting. Since its establishment in 1977, these standards (along with standards for energy efficiency in appliances) have contributed to a reduction in electricity and natural gas usage and costs in California. The California Energy Commission produces, and the California Building Standards Commission subsequently adopts updates to these standards every 3 years to incorporate new energy efficiency technologies. The current California Energy Code became effective on January 1, 2014, and resulted in a 33% increase in energy efficiency compared to the prior, 2008 Energy Code. The CBC is implemented through the local planning and permit process.

Local

The Riverside County General Plan's Air Quality and Multipurpose Open Space elements contain policies that are relevant to renewable energy development and energy conservation including the following (Riverside County, 2015):

Air Quality Element (AQ)

Policy AQ 3.2: Seek new cooperative relationships between employers and employees to reduce vehicle miles traveled.

Policy AQ 3.4: Encourage employee rideshare and transit incentives for employers with more than 25 employees at a single location.

Policy AQ 5.2: Adopt incentives and/or regulations to enact energy conservation requirements for private and public developments.

Policy AQ 5.4: Encourage the incorporation of energy-efficient design elements, including appropriate site orientation and the use of shade and windbreak trees to reduce fuel consumption for heating and cooling.

Policy AQ 10.1: Encourage trip reduction plans to promote alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking.

Multipurpose Open Space Element (OS)

Policy OS 11.1. Enforce the state Solar Shade Control Act, which promotes all feasible means of energy conservation and all feasible uses of alternative energy supply sources.

Policy OS 11.2. Support and encourage voluntary efforts to provide active and passive solar access opportunities in new developments.

Policy OS 11.3. Permit and encourage the use of passive solar devices and other state of-the-art energy resources.

Riverside County's Eligible Renewable Energy Resource Development (eRED) Program

In July 2014, the County of Riverside initiated the eRED Planning program funded by a grant from the California Energy Commission. The purpose of the eRED program is to coordinate and encourage eligible renewable energy resource development (eRED) in the county at the General Plan level. The two-year grant program will support the County in proposing a General Plan Amendment designed to provide a robust framework of policies and data addressing renewable energy resources throughout the county, particularly supporting the development and expansion of geothermal resources in the Salton Sea region, where feasible, and the coordination of solar resources in the far eastern desert portion of the county in conjunction with the State of California's ongoing Desert Renewable Energy Conservation Plan (DRECP) development (Riverside County Planning Department, 2015).

4.4.4 Energy Consumption of the Project

Energy Requirements and Effects on Local and Regional Energy Supplies

The following analysis includes energy consumption values that are based on estimates of the Project's energy requirements through construction, operation and maintenance, and decommissioning.

Direct energy use would include the consumption of petroleum fuel for vehicles and the use of electricity for equipment and facilities. Indirect energy use includes the energy required to make the materials and components used in construction of the Project. This includes energy used for extraction of raw materials, manufacturing, and transportation associated with manufacturing. As described in Chapter 2, *Project Description*, all recyclable wastes generated during construction, operation and maintenance, and decommissioning, including PV panels, would be recycled at appropriate facilities; a Waste Recycling Plan would be prepared prior to issuance of a grading and building permit (BMP-20). Through the recycling of these materials, the Project would achieve the maximum attainable recycling of non-renewable resources in compliance with 42 USC Section 4331(b)(6).

Construction

There are minimal existing energy-consuming activities at the site associated with agricultural operations; therefore, it is expected that energy consumption during Project construction would exceed the baseline. Although construction-related energy consumption would occur temporarily during the construction period, it would represent irreversible consumption of finite natural energy resources. Construction-related energy expenditures would include direct and indirect uses of energy in the form of fuel (typically diesel fuel for trucks and on-site equipment, and gasoline for commuter vehicles). The timing and workforce used for each construction activity/phase is illustrated in Table 2-3 in the Project Description (Chapter 2). Approximately 300-500 daily workers would be present on-site during peak construction. Worker construction traffic would consist of approximately 250-400 daily vehicle roundtrips (300 employees would travel alone, and 200 employees would carpool). It is anticipated that most workers would be drawn from the Blythe/Palo Verde Valley region and the Desert Center region, with a smaller portion drawn from the Imperial Valley or Eastern Riverside County region. Anticipated average daily material deliveries would consist of about 20 truck deliveries per day for 24 months. During construction, a variety of equipment and vehicles would be operating on the site. Table 2-4 in the Project Description (Chapter 2) provides a list of the types of equipment and vehicles expected to be involved in each construction phase. When compared to statewide petroleum fuel consumption, the fuel usage associated with worker trips, deliveries and equipment when, would be minimal and would not be capable of exceeding statewide petroleum supplies.

The Project would not draw electricity from the regional grid during construction; therefore, construction would not adversely affect local or regional electricity supplies. The Project would begin generating electricity upon the connection of the first solar arrays completed, resulting in a

net increase in electricity resources available to the regional grid, and would help decrease reliance on fossil fuels.

Operation and Maintenance

The energy-consuming activities of 12 permanent full time employees would include daily trips to the site, site maintenance (roads and solar panel washing), and site security monitoring. The amount of petroleum consumed during operation would be substantially less than the amount consumed during construction but would still be the primary source of the energy consumed on-site.

During operation and maintenance, on-site electricity needs would be met by Project-generated electricity, and would not be drawn from the electrical grid. Therefore, it would not adversely affect local or regional electricity supplies.

Additionally, the Project would produce enough energy to power approximately 180,000 households and progress the goals of the California Renewable Portfolio Standard (RPS) and other similar renewable programs in the state. The Project operation would have an overall beneficial effect on the electricity supply to the grid and would help decrease reliance on coal power.

Decommissioning

During decommissioning, most of the energy consumed on-site would be used by the petroleum-fueled construction vehicles and equipment used to dismantle the Project. If electricity were required, it would be sourced from any still-operational panels, or from on-site petroleum-fueled generators. The exact amounts of diesel and gasoline required for decommissioning are unknown. However, the amount of energy required to decommission the facility would not be significantly different than the amount of energy that would be consumed each year during construction. As described above, compared to statewide petroleum fuel consumption, the Project's use of these fuel types would be minimal.

Although the energy consumed during decommissioning would be greater than the baseline amount, it would be a minimal and temporary use of energy.

The energy consumed during the lifetime (including decommissioning) of the Project would be less than the energy generated throughout the lifetime of the Project. Overall, the Project would produce a net energy gain. However, much of the project's energy consumption would be in the form of petroleum fuels, whereas the energy it would produce would be in the form of electricity. These energy types are generally not interchangeable (i.e., transportation primarily uses diesel and gasoline, while air conditioning and appliances typically use electricity). Therefore, the Project would result in a net consumption of liquid petroleum fuels and a net supply of electricity to the regional grid. Additionally, decommissioning would return the Project site to its baseline conditions.

Summary

The energy consumed during each Project phase would be greater than the baseline value used at the site. However, energy used during each phase of the Project would be necessary to implement the Project, and none of the proposed energy-consuming activities associated with each phase would be a wasteful, inefficient, or unnecessary use of energy. After the first phase of the Project is operational, and throughout operation, the Project would be a net electricity producer, and would have a beneficial effect during peak electricity demand periods, particularly on warm, sunny days when demand for air-conditioning increases and Project output is at its highest. Additionally, decommissioning would restore the site to baseline conditions. The Project would not have a significant impact with respect to fuel and electrical energy requirements or on local or regional energy supplies.

Compliance with Energy Standards

Construction and Decommissioning

During construction and decommissioning, a Waste Recycling Plan would be prepared and the applicant would recycle all recyclable materials at appropriate facilities, and would therefore be in compliance with 42 USC §4331(b)(6). Additionally, the use of energy during construction and decommissioning would not be unnecessary, wasteful, or inefficient because it would be necessary for the completion of the Project and because construction and decommissioning equipment would comply with all applicable fuel economy and energy efficiency standards. No adverse impact on efforts to achieve existing energy standards would result.

Operation and Maintenance

The Project would use solar energy technology, an eligible renewable energy resource that meets criteria set forth in California Public Utilities Code Section 399.12, Public Resources Code Section 25741, and Renewables Portfolio Standard: Eligibility Guidebook (CEC, 2012). The permitting process for the Project would require that the Project comply with all applicable policies and standards. Thus, the Project would comply with, directly support, and further efforts toward achieving existing energy standards. No adverse impact on efforts to achieve existing energy standards would result.

Efficient Use of Transportation Fuels

Construction and Decommissioning

Construction and decommissioning of the Project would consume diesel and gasoline as described above, some of which would be used for transportation of materials and worker commutes. As described in Chapter 2, *Project Description*, approximately 300-500 daily workers would be present on-site during peak construction. Worker construction traffic would consist of approximately 250-400 daily vehicle roundtrips. Approximately 300 employees would travel alone, and 200 employees would carpool. In addition, BMP 14 requires the project developer to enforce the use of shuttle vans or carpooling where feasible to reduce the amount of traffic on access roads. Anticipated average daily material deliveries would consist of about 20 truck deliveries per day for 24 months. The Project's fuel usage would not be considered inefficient, wasteful, or unnecessary

because the project would enforce carpooling for approximately 40 percent of the proposed construction/decommissioning work force. Therefore, during construction and decommissioning, the use of transportation energy would be less than significant.

Operation and Maintenance

Operation and maintenance of the PVMSP would require approximately 12 permanent full-time employees. Operation- and maintenance-related use of transportation energy would consist of employee commutes, maintenance-related vehicle use on-site, and any necessary hauling of supplies and wastes generated during this phase. Due to the low number of employees and the limited need for deliveries and waste hauling throughout the operational period, it is anticipated that transportation energy consumption would be low. The use of transportation energy for maintenance-related trips would be necessary to the maintenance of the solar plant and related facilities. Therefore, during operation and maintenance, the use of transportation energy would be less than significant.

Mitigation Measures

No mitigation measures are required.

Significance after Mitigation

This impact would be less than significant.

CHAPTER 5
Alternatives

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) describe a range of reasonable alternatives to the proposed project. An EIR also must compare and evaluate the environmental effects and comparative merits of the alternatives. This chapter describes alternatives considered but eliminated from further consideration (including the reasons for elimination), and compares the environmental impacts of selected alternatives retained with those of the proposed Palo Verde Mesa Solar Project (PVMSP or Project).

The following are key provisions of the *CEQA Guidelines* (Section 15126.6):

- The discussion of alternatives shall focus on alternatives to the proposed Project or its location that are capable of avoiding or substantially lessening any significant effects of the proposed Project, even if these alternatives would impede to some degree the attainment of the proposed Project objectives, or would be more costly.
- The No Project alternative shall be evaluated, along with its impacts. The No Project analysis shall discuss the existing conditions at the time the Notice of Preparation was published, as well as what would be reasonably expected to occur in the foreseeable future if the proposed project were not approved, based on current plans and consistent with available infrastructure and community services.
- The range of alternatives required in an EIR is governed by a "rule of reason"; therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the proposed project.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the proposed project need be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives is selected and discussed in a manner to foster meaningful public participation and informed decision-making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in Section 15126.6(f)(1) of the CEQA Guidelines) are environmental impacts, site suitability, economic viability, social and political acceptability, technological capacity, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to an alternative site. An EIR need not

consider an alternative whose effects could not be reasonably identified, whose implementation is remote or speculative, and that would not achieve the basic project objectives.

This chapter discusses potentially feasible alternatives that are capable of avoiding or substantially lessening effects on resources, and then makes a determination about the Environmentally Superior Alternative.

5.1 Project Objectives

The following objectives (as described in Chapter 2, *Project Description*) have been established for the proposed Project:

- Construct a solar energy facility to facilitate meeting State and federal renewable energy standards and goals.
- Assist with State and federal greenhouse gas reduction objectives to the maximum extent possible.
- Locate the Project facilities as near as possible to electrical transmission facilities with anticipated capacity and a reserved California Independent System Operator (CAISO) interconnection position.
- Site the Project in an area with excellent solar energy resources in order to maximize productivity from the photovoltaic (PV) panels.
- To the extent feasible, site the Project on disturbed land with compatible topography and in a manner that minimizes environmental impacts.
- Use a proven and available solar PV technology.

5.2 Alternatives Eliminated from Further Consideration

CEQA requires an EIR to consider a reasonable range of alternatives to the project that would feasibly attain most of the basic objectives of the project. In addition, CEQA requires the consideration of how to avoid or substantially lessen any adverse effects of the proposed project.

Alternatives to the proposed Project were identified through the scoping process, informational public meetings, and preliminary studies. A number of potential alternatives to the proposed Project were identified. This section discusses the following alternatives that were considered but eliminated from further evaluation, for the reasons explained below:

- Solar Power Tower Technology
- Distributed Solar Photovoltaic Alternative
- Conservation and Energy Demand Reduction
- Alternative Site on BLM-managed Lands
- Palo Verde Valley Floor Alternative
- Wind-Generated Power Alternative

5.2.1 Solar Power Tower Technology

Solar power tower technology uses a flat mirror "heliostat" system that tracks the sun and focuses solar energy on a central receiver at the top of a high tower. The focused energy is used to heat a transfer fluid (to 800 to 1,000 degrees Fahrenheit) to produce steam and run a central power generator. The transfer fluid is super-heated before being pumped to heat exchangers that transfer the heat to boil water and run a conventional steam turbine to produce electricity. Although concentrated, solar power systems can store heated fluids to deliver electricity even when the sun is not shining. In areas of high solar insolation potential (i.e., desert environments), the land required to develop a concentrated solar energy facility is comparable to that required for a PV project—approximately five acres per megawatt (MW) of installed capacity (NREL, 2010).

Alternative Conclusions

The use of a solar power tower technology would meet most of the basic Project Objectives; however, use of this technology would result in potentially significant impacts to the Blythe Airport's operations. While the Project would also have significant impacts to airport operations, those impacts are mitigated with Mitigation Measure HAZ-2. However, unlike the Project, this potential alternative could not be similarly mitigated due to typical height design specifications associated with power tower technology. In addition, the solar power tower technology relies on the use of steam to power the turbine, resulting in the use of significantly greater quantities of water for operations than a photovoltaic project. It is for these reasons that a solar power tower system alternative was not considered further.

5.2.2 Distributed Solar Photovoltaic Alternative

There is no single accepted definition of distributed solar technology. The 2011 Integrated Energy Policy Report (IEPR) defines distributed generation resources as "(1) fuels and technologies accepted as renewable for purposes of the Renewables Portfolio Standard; (2) sized up to 20 MW; and (3) located within the low-voltage distribution grid or supplying power directly to a consumer." Distributed solar facilities vary in size from kilowatts to tens of megawatts but do not require transmission to get to the areas in which the generation is used.

A distributed solar alternative would consist of a number of geographically distributed small to medium solar PV systems (100 kilowatts to 1 MW) within existing developed areas that would absorb solar radiation and convert it directly to electricity. The PV panels could be installed on residential, commercial, or industrial building rooftops or in other disturbed areas like parking lots or disturbed areas adjacent to existing structures such as substations. Under this alternative, no new land would be developed or altered. However, depending on the type of solar modules installed and the type of tracking equipment used (if any), a similar or greater amount of PV panels may be required to attain the proposed Project's projected 470 MW of solar PV generating capacity. As such, to create a viable alternative to the proposed Project, there would have to be sufficient newly installed panels to generate 470 MW of capacity. Because of space or capital cost constraints, many rooftop solar PV systems would be fixed-axis systems or would not include the same type of sun-tracking equipment that would be installed in a freestanding utility-scale solar PV project. In addition, such systems would not all be located in an area as sun-rich as

the desert location proposed for the Project. Therefore, this alternative would not attain the same level of efficiency with respect to solar PV generation. This alternative would enable the generation of 470 MW of electricity, but it would be for on-site use only. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations.

Alternative Conclusions

This alternative would involve hundreds if not thousands of installation locations across Riverside County, many of which would require discretionary action, such as design review, Conditional Use Permits (CUPs), or variances, depending on local jurisdictional requirements. Similar to the proposed Project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. Power generated by such distributed solar PV systems would typically be consumed on site by the commercial or industrial facility without requiring the construction of new electrical substation or transmission facilities.

This alternative would reduce aesthetics impacts compared to the proposed Project. Under this alternative, vacant land would not be developed to accommodate solar panels, but rather existing developed areas would be modified. In many cases, the installation of solar panels on large commercial and industrial rooftops would be visually unobtrusive or unnoticeable from receptors at ground level. In other circumstances, the installation of rooftop solar panels may be visible, but would not likely affect the visual character or scenic quality of an area, because the character or quality of an area has already been altered as a result of the building's construction. The exceptions may be if rooftop solar were proposed on historic buildings, which could affect the historic character and integrity of the buildings. Implementation of this alternative would require historic surveys and investigations to evaluate the eligibility of potentially historic structures that are over 50 years old, and either avoidance of such buildings or incorporation of design measures to minimize impacts on historic integrity of the structures. This alternative would also have less than significant aesthetic impacts, as would the proposed Project.

Vehicular mobile-source emissions from commuting workers associated with installation of the equipment under this alternative would be similar to the construction worker trip emissions generated by the proposed Project. However, these emissions would be spread out over a larger area, and potential impacts would be lower. During operations, this alternative would have the same beneficial impacts on air quality as the proposed Project.

This alternative would involve construction activities, but would be at a much smaller scale than the proposed Project. Much fewer heavy equipment operation and large truck deliveries would be required to implement this alternative, and construction emissions that contribute to greenhouse gases (GHG) would be reduced. Trips by commuting workers to install rooftop equipment would be spread out over a larger area when compared with construction worker trip emissions of the proposed Project, and potential impacts would be lower. During project operations, the potential offsets or displacement of GHG, compared with traditional gas- or coal-fired power plants, would be realized to the same degree as they would under the proposed Project because of increased renewable power generating potential. Thus, GHG emissions from this alternative would be less

than those of the proposed Project during construction, and emissions reductions would be similar to those of the proposed Project during operations.

Under this alternative, no construction would occur and no alterations to the drainage patterns would occur on the Project site. Limited construction would occur on developed sites under this alternative, likely leading to minimal alterations to the drainage patterns at those sites. Accordingly, impacts would be equivalent.

Water use would increase under this alternative, since the beneficial impact of converting the Project site from irrigated agriculture to solar use would not occur.

Installation of rooftop solar would likely be consistent with current zoning as well as existing land use plans, policies, and regulations. As there would be no large-scale solar field, no decommissioning plan would need to be prepared. However, the placement of solar panels on other structures throughout the region could result in unknown entitlement requirements, depending on the project location, zoning, land use, and potential environmental impacts on the site and surrounding areas. Like the Project, this alternative would not divide an established community or conflict with an established habitat conservation plan. The degree of consistency between this Alternative and land use plans and policies adopted for the protection of the environment is likely to be similar to that of the Project. Impacts to land use and planning related to this alternative are therefore assumed to be similar to those of the proposed Project.

Although there is potential to achieve up to 470 MW of distributed solar energy, the limited number of existing facilities makes it unlikely to be feasible or present environmental benefits. The proposed Project would utilize single-axis PV trackers with high efficiency, monocrystalline, silicon solar panels. The panel design minimizes shading, and by grouping trackers close together, the technology requires 20 percent less land than conventional crystalline fixed tilt systems and 60 percent less land than thin film systems.

Rooftop systems typically consist of less efficient fixed-tilt systems that may not be oriented optimally towards the sun, meaning that developers would need to obtain more surface area for the Project if constructed on a rooftop instead of on the ground. The transaction costs of obtaining multiple rooftops, the complexity of mobilizing construction crews across multiple projects including the transporting and deployment of construction materials in a less efficient manner, and the need to develop the deals to secure the same amount of PV-produced electricity can make this type of alternative infeasible.

This alternative includes a number of drawbacks, including, but not limited to, the following:

- Given the distributed nature of such a network of facilities, management and maintenance would not be as efficient, and total capital costs would likely be higher.
- The requirement to negotiate with a large number of individual property owners to permit placement of solar panels on rooftops.
- Older buildings would possibly need to be retrofitted due to added loading.

- The difficulty of ensuring proper maintenance of a large number of smaller solar installations.
- The lack of an effective electricity distribution system for large numbers of small electricity producers.

As noted above, alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce any significant environmental effects. There are a number of challenges associated with the implementation of a distributed solar technology, which include widely varying codes, standards, and fees; environmental requirements and permitting concerns; interconnection of distributed generation; and integration of distributed generation. While distributed generation projects may have fewer impacts on certain resources because they do not utilize substations and transmission facilities, this illustrates that distributed generation projects cannot meet one of the fundamental objectives of a utility-scale solar project: to provide renewable energy to utility off-takers and their customers. Rooftop systems that are not connected to the utility side of the electric grid only generate power for on-site consumption. At the same time, the difficulties in supplying a comparable amount of megawatts of clean energy to the public through the utility sector has its own set of impacts due to failure to offset the impacts of counterpart fossil fuel energy sources. As a result, this technology is eliminated from detailed analysis as an alternative to the proposed Project.

5.2.3 Conservation and Energy Demand Reduction

Conservation and demand reduction consist of a variety of approaches for the reduction of electricity use, including energy efficiency and conservation, building and appliance standards, and load management and fuel substitution.

Alternative Conclusions

This alternative is not technically feasible as a replacement for the proposed Project, because California utilities are required to achieve aggressive energy efficiency goals. Additional energy efficiency beyond that occurring in the baseline condition may be technically possible, but it is speculative to assume that energy efficiency alone would achieve the necessary GHG reduction goals. With population growth and increasing demand for energy, conservation and demand management alone is not sufficient to address all of California's energy needs. Additionally, as stated in the California Energy Commission's 2011 IEPR, California's renewable energy goals are based on a percentage of retail sales of electricity, and reducing overall electricity demands means fewer retail sales and therefore less renewable energy that must be generated. Furthermore, it states that conservation and demand-side management mean fewer renewable plants will need to be built. However, conservation and demand-side management would not by themselves provide the renewable energy required to meet the California renewable energy goals. Therefore, this alternative does not have the potential to meet Project objectives pertaining to renewable energy goals.

5.2.4 Alternative Site on BLM-managed Lands

The Alternative Site on BLM-managed Lands would involve the construction, operation, and decommissioning of a 470 MW solar facility and 230 kV gen-tie line within the developable areas of the Riverside East Solar Energy Zone (SEZ) that was identified by the BLM and Department of Energy (BLM and DOE, 2010) as a priority development area for utility-scale solar energy development. The Alternative Site on BLM-managed Lands would be located approximately 20 miles from the Colorado River Substation. This alternative would require a BLM ROW grant for the construction and operation of solar facilities.

Alternative Conclusions

It may not be feasible to find an Alternative Site on BLM-managed Lands, because most of the land within the developable areas of the Riverside East SEZ is in use, proposed for other solar energy projects, or within mountainous areas. Although the Alternative Site on BLM-managed Lands would avoid impacts to agricultural resources; it would have impacts similar to those of the proposed site for many resource elements, such as air quality and traffic. The Alternative Site on BLM-managed Lands would likely have more severe biological, cultural, and visual resource impacts however, as it would be located on undisturbed lands. This alternative would also be sited closer to wilderness areas and Areas of Critical Environmental Concern (ACECs). As such, the Alternative Site on BLM-managed Lands would not present significant environmental advantages over the proposed Project and was not analyzed in further detail.

5.2.5 Palo Verde Valley Floor Alternative

Similar to the proposed Project, the Palo Verde Valley Floor Alternative would involve the construction, operation, and decommissioning of a 470 MW solar facility and 230 kV gen-tie line on approximately the same amount of acres. The solar facility would be situated on private lands within the Palo Verde Valley (between the Palo Verde Mesa to the west and the Colorado River to the east), as well as on BLM-managed lands. This alternative would require a BLM ROW grant for the 230 kV gen-tie line and CUP approvals to allow for the construction and operation of solar facilities.

Alternative Conclusions

Similar to the proposed Project, the Palo Verde Valley Floor Alternative would impact agricultural land. The Palo Verde Valley Floor Alternative would impact lands that are under Williamson Act contracts however, which would not be impacted by the proposed Project. This Alternative would be farther away from the Colorado River Substation, which would increase ground disturbance and impacts to aesthetics, air quality, biological resources, hydrology and water quality, and traffic and transportation associated with the gen-tie line. The proximity to the Colorado River could pose adverse impacts related to migratory birds, water resources, and the risk of flooding, which would not result from implementation of the proposed Project. As such, the Palo Verde Valley Floor Alternative would not present significant environmental advantages over the proposed Project and was not analyzed in further detail.

5.2.6 Wind-Generated Power Alternative

This alternative would involve the use of wind energy as an alternative to development of a solar energy facility. Similar to solar power, power from the wind is an alternative to energy production from non-renewable resources like coal and oil, or nuclear sources. Wind energy provides several benefits, including, but not limited to, the following:

- Wind is a renewable and infinite resource.
- The generation of wind energy does not produce any air emissions, including carbon dioxide (GHG).
- Although wind energy requires a significant up-front capital investment, it is a free resource after the capital cost of installation (excluding maintenance).

In addition, energy production from wind power would not require the significant water usage associated with coal, nuclear, and combined-cycle sources.

Commercial wind farms typically use three-bladed turbines that range from 300 feet up to 500 feet in height, with blades of 150 feet in length that are pointed into the wind by computer-controlled motors. The wind farm would consist of a group of wind turbines placed where sufficient and consistent wind resources exist and electrical power transmission infrastructure is located. The individual turbines would be interconnected with a medium-voltage power collection system and a communications network. Similar to solar energy production facilities, wind energy production facilities also require substations, which would increase the medium-voltage electrical current through a transformer before connection to the high-voltage transmission system. Compared with traditional energy sources, the environmental effects of wind power are relatively minor.

Alternative Conclusions

Unlike the proposed Project, wind turbines would have the potential to impact avian species in the local area. The development of wind farms would also typically result in greater adverse aesthetics impacts due to the height of the turbines. Agriculture resources would also still be impacted by the presence of wind turbines and associated facilities. Additionally, wind energy production facilities do not reduce short-term construction-related air quality emissions.

While the Project area has been identified as suitable for solar projects based on the solar insolation levels (the amount of solar radiation energy) in the area, wind energy production is not well-suited to the Project area due to relatively low wind speeds and directionality insufficient to drive wind turbines. No significant facilities have been developed in the Project vicinity due to the lack of adequate wind resources.

This alternative was eliminated from further consideration because:

- It would result in additional/greater impacts than the proposed Project (aesthetics and biological resources);
- It would not substantially reduce the significant environmental impacts associated with aesthetics, agriculture resources, air quality, and biological resources;

- It would fail to meet most of the Project objectives; and
- The Project area is not suited for wind energy production; therefore, a wind energy production facility would not generate as much electricity as solar equipment.

5.3 Alternatives Selected for Analysis

The following alternatives have the potential to meet the basic Project objectives of the proposed Project, as well as avoid or substantially lessen any of the significant impacts of the proposed Project.

- Alternative 1: No Project
- Alternative 2: Reduced Project Alternative

Table 5-1 summarizes the Project alternatives. Each alternative is also described in detail below.

TABLE 5-1
PROJECT ALTERNATIVES SUMMARY

Alternative	Description	Basis for Selection and Summary of Analysis
Alternative 1: No Project	• No development would occur on site • Site would remain as agricultural land	• Required by CEQA • Avoids need for CUP and ROW grant • Avoids impacts
Alternative 2: Reduced Project Alternative	• 388 MW of photovoltaic solar • Solar facility would avoid utilization of Important Farmland	• Would require CUP and ROW grant • Minimizes impacts to agriculture

5.3.1 Alternative 1: No Project Alternative

Under Section 15126.6(e)(2) of the CEQA Guidelines, the No Project Alternative should discuss the existing conditions at the time the Notice of Preparation is published and what is reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

Under the No Project Alternative, the existing land uses (agriculture) on the Project site would continue. Current, ongoing operation and maintenance activities associated with the agricultural use of the Project Site would continue. Existing roadways would also continue in their current capacities. All current zoning and land use designations (Controlled Development and Light Agriculture) would be maintained.

Impacts Compared to Project Impacts

The sections below details environmental impacts under Alternative 1, the No Project Alternative, compared to those identified for the proposed Project.

Aesthetics

Under the No Project Alternative, the Project area would remain with its current and existing land uses (agriculture); no solar arrays or other Project facilities would be developed and the site would remain unchanged. The areas surrounding the Project area are mostly under agricultural

production and undeveloped land. Under the No Project Alternative, no impacts to the undeveloped nature of the Project area would occur. Thus, views of the Project site would not be modified, and the potential impacts related to reflection and glare would not occur. The No Project Alternative would result in no aesthetic impacts, while the Project would have less than significant impacts to aesthetics.

Agriculture and Forestry Resources

Under the No Project Alternative, existing agricultural uses on the Project site would remain and Important Farmland would not be affected. Thus, the No Project Alternative would avoid impacts to agricultural resources, while the Project would have impacts that are mitigated to less than significant levels.

Air Quality

During construction, air quality emissions associated with the Project would be equal to, if not greater than, the existing farming operations. Following the construction period (during Project operations), the proposed Project would likely produce less air pollution than existing land uses by removing gas- and diesel-powered farming equipment and vehicles (e.g., tractors, crop dusting, haul trucks) and ground-disturbing activities (e.g., planting, harvesting, plowing), and replacing them with the minor vehicle and equipment emissions and minimal soil disturbance associated with the solar facility. In addition, the proposed Project would decrease regional air pollutant emissions by reducing the demand for new fossil-fuel-burning power generation facilities. The No Project Alternative would not facilitate meeting Assembly Bill (AB) 32 or Executive Order S-3-05 emission reduction targets, nor would it offset emissions generated by fossil-fuel-based sources of energy. The beneficial impacts associated with the operational period would far outlast the construction phase; thus, the long-term consequence of the No Project Alternative would be to produce more air quality emissions than the proposed Project.

Biological Resources

Under the No Project Alternative, no new construction and/or operational activities would result, and impacts to biological resources would not occur. However, if currently fallowed farmland were returned to active agricultural use; this could reduce habitat for certain species. There would be no impacts to biological resources from the No Project Alternative, compared to the Project. As discussed in Chapter 3, *Environmental Analysis*, the potential impacts to biological resources from the proposed Project would be less than significant with mitigation.

Cultural and Paleontological Resources

Under the No Project Alternative, the Project site would remain as-is, and no ground disturbing activities would occur beyond the recurring surface operations needed to maintain agricultural crops. Existing agricultural land uses would only disturb the top one or two feet of soil. Therefore, unlike the proposed Project, the No Project Alternative would not increase the potential to accidentally uncover potentially significant cultural, archaeological, or paleontological resources that may be located beneath the surface of the Project sites. There would be no impact to cultural resources, and no mitigation measures would be necessary.

Accordingly, there would be no impacts from the No Project Alternative. Mitigation measures are provided to reduce impacts from the proposed Project to below a level of significance.

Geology, Soil, and Mineral Resources

Under the No Project Alternative, no new construction and/or operational activities would result. Thus, no ground-disturbing activities (solar panel installation, substation and O&M building and associated septic systems, and construction of access roads) would occur. As a result, increased erosion and sediment runoff would not have the potential to occur. Existing agricultural land uses would only disturb the top one or two feet of soil. Therefore, the No Project Alternative would not have impacts to geology and soils, while the Project would have impacts that are mitigated to levels less than significant.

Greenhouse Gas Emissions

Under the No Project Alternative, no new construction and/or operational activities would result. Therefore, equipment and vehicle operation and construction worker commuter trips would not occur and subsequent increased GHG emissions would not occur as a result. However, the No Project Alternative would not facilitate meeting Assembly Bill (AB) 32 or Executive Order S-3-05 emission reduction targets, nor would it offset emissions generated by fossil-fuel-based sources of energy. Therefore, the No Project Alternative would have no impacts, but also would not produce the Project's beneficial impacts during operation. The operational period would far outlast the construction phase; thus, the long-term consequence of the No Project Alternative would be to produce more GHG emissions than the proposed Project.

Hazards and Hazardous Materials

Under the No Project Alternative, no new construction and/or operational activities would result. Therefore, impacts from hazards and hazardous waste resulting from the construction or operation of the proposed Project would not occur. Therefore, the No Project Alternative would have no impacts while the proposed Project would result in mitigated impacts that are less than significant.

Hydrology and Water Quality

Under the No Project Alternative, no new construction and/or operational activities would result. Because the No Project Alternative would not modify the landscape from the existing conditions, drainage patterns on the Project site would not be altered. Therefore, the No Project Alternative would have no impacts, while the proposed Project would result in mitigated impacts that are less than significant.

Land Use and Planning

Under the No Project Alternative, the Project site would remain under its existing land uses. Similar to the proposed Project, the No Project Alternative would not physically divide an established community. According to the Riverside County General Plan (Palo Verde Area Plan), the proposed Project site has an Agricultural land use designation. Parcels are currently zoned as W-2-10 (Controlled Development Areas [10 Acre Min.]), W-2-5 (Controlled Development Areas), and A-1-10 (Light Agriculture). Similar to the proposed Project, the No Project

Alternative would not conflict with any applicable land use plan, policy, or regulation of an agency adopted for the purpose of protecting the environment. The Project site is not within the boundaries of any adopted habitat conservation plan or natural community conservation plan; therefore, no impact would occur.

Noise

Under the No Project Alternative, no new construction and/or operational activities would result and all Project-related noise would be avoided. The noise of agricultural operations would continue. Existing noise sources within the Project area include traffic from I-10 and nearby roadways, airplane noise from the Blythe Airport, sounds from agricultural operations, sounds from nearby neighborhoods, and naturally occurring sounds (e.g., winds). Noise impacts under the proposed Project would be greater than these existing conditions.

Population and Housing

The No Project Alternative would not result in any temporary increase in the population or need for additional temporary housing, nor would it contain a residential component. Without development of a project, a construction and operational workforce for a project would not be required; as such, no impact would occur.

Public Services and Utilities

Physical impacts to public services are usually associated with population in-migration and growth in an area, which increase the demand for a particular service, leading to the need for expanded or new facilities. Under the No Project Alternative, solar arrays and other ancillary facilities would not be constructed on the proposed site and no increased demand for fire or police protection services, as well as utilities, would result. There would be no added potential for fires or service calls during construction or operation. Similarly, there would be no increased need for law enforcement personnel to respond to vandalism or other law enforcement issues at the Project site under the No Project Alternative. However, under the No Project Alternative, water usage required to sustain the farming operations would remain as agricultural production would continue. This water usage would be much greater than what would be required under the operation of the proposed solar facility within the same footprint. Therefore, there would be no impacts to fire protection and law enforcement services under the No Project Alternative, while the proposed Project would result in less than significant impacts. However, the No Project Alternative also would not realize the Project's beneficial impact to water usage.

Recreation

During construction and decommissioning activities under the proposed Project, there would be a temporary increase in population that may utilize existing neighborhood or regional parks or other recreational facilities in the Project vicinity. However, it would be a temporary impact and considered less than significant. In comparison, the No Project Alternative would not result in any increase in demand for recreational facilities, as there would be no substantial increases in population, nor would the alternative result in an addition or expansion of any recreational facilities. As such, the No Project Alternative would result in no impacts, while the proposed Project would result in mitigated impacts that are less than significant.

Traffic and Transportation

In contrast to the proposed Project, there would be no new development associated with the No Project Alternative. The transportation and traffic impact level associated with PVMSP operations is assumed to be equivalent to existing agricultural operations, given the small quantity of staff needed to maintain and operate the Project. Transportation and traffic impacts associated with construction of the proposed Project would be greater than existing agricultural operations. Accordingly, with respect to the construction phase, the proposed Project would result in mitigated impacts that are less than significant, while the No Project Alternative would have no impacts.

5.3.2 Alternative 2: Reduced Project Alternative

The proposed Project would impact approximately 350 acres of Important Farmland (148 acres of Prime Farmland, 89 acres of Farmland of Statewide Importance, and 85 acres of Unique Farmland). The Reduced Project Alternative would avoid development on 316 acres of this Important Farmland; however, the overhead gen-tie line corridor needed to connect the solar facility to the Colorado River Substation would impact approximately 34 acres of Important Farmland (33 acres of Prime Farmland and 1 acre of Unique Farmland). The Reduced Project Alternative would produce approximately 388 MW. Similar to the proposed Project, Alternative 2 would include the construction of a solar facility, electrical collection system (combiners, inverters, and transformers), 34.5 kV underground distribution system, 230 kV gen-tie to the Colorado River Substation, O&M building, and Project substations; however, these Project components could be reduced in number or size. It is anticipated that the daily construction workforce and truck deliveries (truck traffic) would be similar to the proposed Project, but would occur over a shorter duration for Alternative 2. Alternative 2 would also require a CUP and ROW grant. The gen-tie line corridor for Alternative 2 would still require the utilization of 34 acres of Important Farmland for non-agricultural uses for 30 years in the unincorporated area of Riverside County. Impacts to agriculture would reduce from 350 acres of Important Farmland (proposed Project) to 34 acres with implementation of Alternative 2. Similar to the proposed Project, implementation of Mitigation Measure AG-1 would reduce impacts to less than significant.

Impacts Compared to Project Impacts

The sections below detail environmental impacts under Alternative 2, the Reduced Project Alternative, compared to those identified for the proposed Project.

Aesthetics

The Reduced Project Alternative would have a smaller overall size and thus would create less visual blight and potential reflection. Because of this, the Reduced Project Alternative would result in fewer impacts than the proposed Project. As discussed in Chapter 3, *Environmental Analysis*, potential aesthetics, visual resources, and reflection impacts associated with the proposed Project would not be cumulatively considerable. Implementation of the Reduced Project Alternative would further reduce the contribution to cumulative impacts associated with the proposed Project.

Agriculture and Forestry Resources

Under the Reduced Project Alternative, 316 acres of Important Farmland would be developed into the solar facility development; however, the overhead gen-tie line corridor would still be constructed within agricultural lands to connect the solar array facilities to the Colorado River Substation and impact approximately 34 acres of Important Farmland. The proposed Project would result in greater impacts to agricultural resources as a larger footprint would be required to develop a larger solar project in comparison to Alternative 2. Under Alternative 2, implementation of Mitigation Measure AG-1 would still be required to provide various options for the Applicant to reduce the severity of the impact of the temporary loss of Important Farmland to less than significant levels. Project operation under both Alternative 2 and the proposed Project would not add considerably to cumulative impacts related to agricultural resources.

Air Quality

During the construction period, overall air quality emissions associated with the Reduced Project Alternative would be less than the proposed Project, because there would be less land area disturbed and fewer hours of construction equipment operation. Following the construction period (during Project operations), the proposed Project would produce less air pollution than the Reduced Project Alternative, as the Reduced Project Alternative includes continued farming operations on part of the site with gas- and diesel-powered farming equipment and vehicles (e.g., tractors, crop dusting, haul trucks) and ground-disturbing activities (e.g., planting, harvesting, plowing). These activities and operations would be replaced with the minor vehicle and equipment emissions and minimal soil disturbance associated with the solar facility under the Project. In addition, the proposed Project would decrease regional air pollutant emissions by reducing the demand for new fossil-fuel-burning power generation facilities more than the Reduced Project Alternative given the power output of the solar facilities. Therefore, there would be fewer long- term air pollution benefits resulting from the Reduced Project Alternative than the proposed Project. Over the life of the Project, the Reduced Project Alternative would have less of a beneficial effect on air quality than the proposed Project.

Biological Resources

Both the proposed Project and Alternative 2 would result in the development of a project site that consists of undeveloped agricultural lands. Although the Reduced Project Alternative would result in less development of the Project site as compared to the proposed Project, the Reduced Project Alternative would still require the implementation of mitigation measures in order to reduce the severity of potential impacts to biological resources. Similar to the proposed Project, the Reduced Project Alternative would have some potential to result in impacts to sensitive habitat as described in Chapter 3. However, with the implementation of the avoidance, minimization, and mitigation measures outlined, these potential impacts would be reduced to a level of less than significant. Because the Reduced Project Alternative would cover less land than the proposed Project, less potential impacts to biological resources would result.

Cultural and Paleontological Resources

Under the Reduced Project Alternative, less of the site would be disturbed, reducing the likelihood of accidental discovery of potentially significant cultural, archaeological, or

paleontological resources that may be located beneath the surface of the project site. There would be less of an impact to cultural resources, although mitigation measures would still be necessary. Accordingly, there would be fewer impacts from the Reduced Project Alternative than the proposed Project.

Geology, Soils and Mineral Resources

The amount of land that would be covered by the Reduced Project Alternative would be 3,078 acres compared to 3,400 acres for the proposed Project and, consequently, this alternative would reduce the Project's impact on geology and soils. The Reduced Project Alternative would preclude certain areas of farmland on the Project site from solar facility development; as such, this specific area would remain unchanged and the associated soil and geologic features would not be removed. The type of disturbance that would occur on the 3,078 acres would be the same as the type of disturbance that would occur on 3,400 acres under the proposed Project. Therefore, State and County requirements discussed in the analysis of the Project would remain applicable to Alternative 2. The impacts to geology and soils under the Reduced Project Alternative would be similar as the proposed Project.

Greenhouse Gas Emissions

The Reduced Project Alternative would have a smaller overall size and would produce less solar energy than the proposed Project. Therefore, there would be less equipment and vehicle operation and construction worker commuter trips; GHG emissions would occur to a lesser extent as a result. However, the Reduced Project Alternative would not go as far in meeting AB 32 or Executive Order S-3-05 emission reduction targets, nor would it offset as many emissions generated by fossil-fuel-based sources of energy as compared to the proposed Project. Therefore, the Reduced Project Alternative would have fewer impacts than the proposed Project during construction, but greater impacts during operation. The operational period would far outlast the construction phase; thus, the long-term impact of the Reduced Project Alternative relative to GHG would be greater than the impact of the proposed Project.

Hazards and Hazardous Materials

The Reduced Project Alternative would create less of an impact relating to hazards and hazardous materials during construction and decommissioning compared to the proposed Project because of the reduced size and infrastructure of the solar facility, meaning that fewer hazards would be present on the site. The proposed Project and the Reduced Project Alternative would use the same PV technology, and the same mitigation measure would be implemented to reduce the potential for spills to occur and to manage spills that do occur. The primary difference is that less land and solar technology would be used under the Reduced Project Alternative. As with the proposed Project, the Reduced Project Alternative would result in a less than significant hazard to the public and the environment through the routine transport, use, or disposal of hazardous materials and result in a less than significant impact with mitigation related to an inadvertent release during construction of hazardous materials into the environment. Overall, impacts regarding hazards and hazardous materials would be slightly less for this alternative than for the proposed Project.

Hydrology and Water Quality

The Reduced Project Alternative would result in the development of fewer solar trackers on less land than the proposed Project. This alternative would still result in changes to the landscape and drainage patterns on the Project site. The Reduced Project Alternative would still require the same precautions to be implemented as would be required for the proposed Project. Therefore, because both projects would result in less than significant impacts with adherence to all applicable regulations, impacts to hydrology and water quality from Alternative 2 would be similar as the proposed Project.

Land Use and Planning

Similar to the proposed Project, the Reduced Project Alternative would also require a CUP. Nonetheless, with approval of all discretionary requests, both the proposed Project and the Reduced Project Alternative would be consistent with the land use and zoning designations at the Project site, and neither project would conflict with any applicable land use plans, policies, or regulations. Similar to the proposed Project, the Reduced Project Alternative would not be located between housing developments or communities; therefore, this alternative would not physically divide an established community. Accordingly, because both the proposed Project and the Reduced Project Alternative would require approval of discretionary requests in order to maintain consistency with all applicable land use plans, impacts from the Reduced Project Alternative would be similar to those resulting from the proposed Project.

Noise

The Reduced Project Alternative would have a smaller overall size and would produce less solar energy than the proposed Project. As a result, there would be fewer noise impacts. Existing noise sources within the Project area include traffic from I-10 and nearby roadways, airplane noise from the Blythe Airport, sounds from agricultural operations, sounds from nearby neighborhoods, and naturally occurring sounds (e.g., winds). Because construction noise impacts under the Reduced Project Alternative would occur over a shorter period of time than the proposed Project, the Reduced Project Alternative would result in fewer impacts as compared to the proposed Project.

Population and Housing

As described in Chapters 3 and 4, the required construction, operation, and decommissioning workforce of the Project would be found locally and no in-migration would occur that would trigger the need for new housing. Similar to the proposed Project, a majority of the projected construction workforce for Alternative 2 is anticipated to commute daily to the site (within a two-hour driving distance). An increase in population during the construction, operation, and decommissioning phases of Alternative 2 would be nominal, similar to what would be expected under the proposed Project. Others are expected to stay in temporary housing during the week and commute home over the weekend. Therefore, as with the proposed Project, the Reduced Project Alternative would not induce substantial growth to the regional population levels. Under Alternative 2, a reduced workforce would be required to complete a smaller-scale project on less acreage compared to the proposed Project. Impacts to population and housing under Alternative 2 would be similar to the proposed Project.

Public Services and Utilities

As stated in Chapter 4, physical impacts to public services are usually associated with population in-migration and growth in an area, which increase the demand for a particular service, leading to the need for expanded or new facilities. An increase in population during the construction, operation, and decommissioning phases of Alternative 2 would be nominal, similar to what would be expected under the proposed Project. Similar to the proposed Project, it is anticipated that the construction workforce under the Reduced Project Alternative would be drawn from the Blythe/Palo Verde Valley and Desert Center regions, with a smaller portion drawn from the Imperial Valley or Eastern Riverside County regions. It is also anticipated that the majority of the construction workforce under the Reduced Project Alternative would either commute daily or seek temporary housing during the 36-month construction phase. It would be unlikely that construction workers would relocate close to the Project site with their families due to the temporary nature of the construction period. Therefore, the temporary addition of construction workers to the area's population under the Reduced Project Alternative would be nominal in comparison to the proposed Project.

The Reduced Project Alternative's water requirements would be slightly greater than the proposed Project's requirements (which are already minimal), due to an increase amount of land remaining in agricultural production. Solid waste disposal needs and compliance with regulations related to solid waste would also not result in an impact if this alternative is implemented. Energy use on site during each phase of the Project would be slightly less under Alternative 2 but, at the same time, renewable energy generation on site would be reduced, as well.

The Reduced Project Alternative would involve the construction of a reduced solar array facility footprint on site. As a result, the reduced footprint and associated reduced amount of solar infrastructure would lessen the likelihood of potential fires or service calls during construction due to a shorter construction time. Under this alternative, the likelihood for law enforcement personnel to respond to vandalism or other law enforcement issues at the Project site would also be reduced as a result of a decreased number of solar panels and solar infrastructure on site that could be targeted. Therefore, there would be slightly fewer impacts to fire protection and law enforcement services under Alternative 2 in comparison to the proposed Project.

Recreation

During construction and decommissioning activities under the proposed Project, there would be a temporary increase in population that may utilize existing neighborhood or regional parks or other recreational facilities in the Project vicinity. However, it would be a temporary impact and considered less than significant. Similar to the proposed Project, it is anticipated that the construction workforce under the Reduced Project Alternative would be drawn from the Blythe/Palo Verde Valley and Desert Center regions, with a smaller portion drawn from the Imperial Valley or Eastern Riverside County regions. It is also anticipated that the majority of the construction workforce under the Reduced Project Alternative would either commute daily or seek temporary housing during the 36-month construction phase. It would be unlikely that construction workers would relocate close to the Project site with their families due to the temporary nature of the construction period. Therefore, the temporary addition of construction

workers to the area's population under Alternative 2 would be nominal in comparison to the proposed Project.

Traffic and Transportation

As Alternative 2 would result in a smaller-scale project, it is anticipated that the duration of construction activities associated with this alternative would occur under a shorter timeframe as compared to the proposed Project. The daily truck and worker trips during construction of Alternative 2, however, would be similar to the daily truck and worker trips during construction of the proposed Project. Because transportation and traffic impacts associated with construction of the proposed Project would be greater than the Reduced Project Alternative, due to a comparatively longer construction timeframe, the Reduced Project Alternative would result in fewer impacts in comparison to the proposed Project.

5.3.3 Comparison of Alternatives to the Proposed Project

This section and **Table 5-2** summarize the comparison of the Alternatives to the proposed Project.

Alternative 1: No Project

Avoid or Substantially Lessen Project Impacts

Alternative 1, the No Project Alternative, would avoid impacts from the construction, operation, maintenance, and decommissioning of the proposed Project. This alternative would result in no impacts to aesthetics, agriculture, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, paleontological resources, population and housing, energy usage and under public services and utilities, recreation, and traffic and transportation, but would not realize the beneficial impacts of the Project relating to long-term to air quality emissions, greenhouse gas emissions, and water usage.

Attainment of Project Objectives

Alternative 1, the No Project Alternative, does not have the potential to meet any of the Project objectives.

Comparative Merits

The No Project Alternative would avoid impacts associated with agriculture. Long-term air quality and GHG impacts would be substantially greater with the No Project Alternative.

Alternative 2: Reduced Project Alternative

Avoid or Substantially Lessen Project Impacts

The Reduced Project Alternative would result in fewer impacts to aesthetics, agricultural resources, biological resources, cultural resources, hazards and hazardous materials, noise, paleontological resources, energy usage under public services and utilities, recreation, and traffic and transportation, but would result in greater long-term impacts to air quality and GHG

emissions and water usage under public services and utilities. Alternative 2 would minimize impacts to agriculture and reduce impacts to geology and soils and hydrology and water quality.

Attainment of Project Objectives

Alternative 2, the Reduced Project Alternative, has the potential to meet the Project objectives of constructing a solar energy facility to meet renewable energy standards and goals, which would assist with GHG reduction objectives; however, it would contribute less to meeting the RPS goals and GHG reduction than the proposed Project. Given the importance of attainment of renewable energy mandates and objectives, a reduction in the Project's solar energy production would be less effective in meeting the Project objective of supporting renewable energy goals than the proposed 470 MW facility.

Comparative Merits

The Reduced Project Alternative would reduce most impacts associated with the Project, but all impacts of the Project can be reduced to less than significant levels through mitigation measures. Long-term air quality and GHG emissions would be greater with the Reduced Project Alternative compared to the Project, and the Reduced Project Alternative would contribute comparatively less to meeting the RPS goals and GHG reduction than the proposed Project.

TABLE 5-2
COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT

Environmental Resource	Alternative 1: No Project[a]	Alternative 2: Reduced Project Alternative
Aesthetics	Fewer	Fewer
Agriculture and ForestryResources	Fewer	Fewer
Air Quality	Greater	Greater
Biological Resources	Fewer	Fewer
Cultural and Paleontological Resources	Fewer	Fewer
Geology,Soils and Mineral Resources	Fewer	Similar
Greenhouse Gas Emissions	Greater	Greater
Hazards and Hazardous Materials	Fewer	Fewer
Hydrology and Water Quality	Fewer	Similar
Land Use and Planning	Fewer	Similar
Noise	Fewer	Fewer
Population and Housing	Fewer	Fewer
Public Services and Utilities	Fewer (fire, law enforcement, energy usage), Greater (water usage)	Fewer (fire, law enforcement, energy usage), Greater (water usage)
Recreation	Fewer	Fewer
Traffic and Transportation	Fewer	Fewer
Potential to Meet Project Objectives?	*NO*	*POTENTIALLY YES*
Reduce Significant and Unavoidable Impacts?	*YES*	*YES*

a The No Project Alternative will have no impacts, and the terms "fewer" and "greater" are used for ease of reference only, "Fewer" is used to indicate that the No Project Alternative would not create impacts the Project would create. The term "Greater" indicates that the No Project Alternative, consisting of a continuation of baseline agricultural activities, would result in greater air quality and greenhouse gas emissions than would the Project.

5.4 Environmentally Superior Alternative

As presented in the comparative analysis above, the Environmentally Superior Alternative for the proposed Project would be Alternative 1, the No Project Alternative. Section 15126.6 of the CEQA Guidelines requires an EIR to identify an "environmentally superior" alternative; if the "No Project" alternative is the environmentally superior alternative, then the EIR must identify which of the other alternatives is environmentally superior. In accordance, Alternative 2, the Reduced Project Alternative, would be the Environmentally Superior Alternative since it would result in fewer impacts than the proposed Project due to the smaller project footprint.

CHAPTER 6
List of Preparers

A list of persons responsible for the preparation of various sections of the EIR or preparation of significant background materials, or who participated to a significant degree in preparing this EIR, is presented below.

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Consultants responsible for the technical analysis and document production are listed below, along with their role.

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CHAPTER 7
Acronyms and Abbreviations

°C	degrees Celsius
°F	degrees Fahrenheit
µg/L	micrograms per Liter
$\mu g/m^3$	micrograms per cubic meter
AAQS	ambient air quality standards
AB 32	California Global Warming Solutions Act of 2006
AC	alternating current
ACEC	Area of Critical Environmental Concern
ACHP	Advisory Council on Historic Preservation
ACS	American Community Survey
AD	*Anno Domini*
AADT	Annual Average Daily Traffic
AF	acre-foot
AFY	acre-feet per year
AIRFA	American Indian Religious Freedom Act
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AM	amplitude modulated
amsl	above mean sea level
AO	Authorized Officer
APLIC	Avian Power Line Interaction Committee
APM	Applicant Proposed Measure
APN	Assessor's Parcel Number
ARB	California Air Resources Board
ARPA	Archaeological Resources Protection Act of 1979
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing Materials Standards
ATCM	Airborne Toxic Control Measure
ATV	all-terrain vehicle
BA	Biological Assessment

BC	Before Christ
BCC	Birds of Conservation Concern
BEA	United States Bureau of Economic Analysis
BGEPA	Bald and Golden Eagle Protection Act
bgs	below ground surface
BLM	United States Department of Interior, Bureau of Land Management
BM	Biological Monitor
BMPs	best management practices
BO	Biological Opinion
BOE	California State Board of Equalization
BRMIMP	Biological Resources Mitigation, Implementation, and Monitoring Plan
BRMMP	Biological Resources Mitigation and Monitoring Plan
BSPP	Blythe Solar Power Project
CAA	Clean Air Act
CAISO	California Independent System Operator
CAL FIRE	California Department of Forestry and Fire Protection
CalArp	California Accidental Release Program
CalEPA	California Environmental Protection Agency
Cal-IPC	California Invasive Plant Council
Cal-OSHA	California - Occupational Safety and Health Administration
Caltrans	California State Department of Transportation
CAMA	California-Arizona Maneuver Area
CBC	California Building Code
CBOC	California Burrowing Owl Consortium
CCD	Census County Division
CCH	Consortium of California Herbaria
CCR	California Code of Regulations
CDCA	California Desert Conservation Area
CDCA Plan	California Desert Conservation Area Plan of 1980, as amended
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game (now CDFW)
CDFW	California Department of Fish and Wildlife (formerly CDFG)
CDHCS	California Department of Health Care Services
CDMG	California Division of Mines and Geology
CDOC	California Department of Conservation
CDPA	California Desert Protection Act of 1994
CDPH	California Department of Public Health
CdTe	cadmium telluride
CEC	California Energy Commission

CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geological Survey
CH_4	methane
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CMA	Congestion Management Agency
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CPM	Compliance Project Manager
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRS	Colorado River Substation
CRT	cathode ray tube
CSC	California Species of Special Concern
CSRL	California Soil Resource Lab
CT	census tract
CUP	Conditional Use Permit
CUPA	Certified Unified Program Authority
CVGB	Chuckwalla Valley Groundwater Basin
CWA	Clean Water Act
cy	cubic yards
DAS	data acquisition system
dB	Decibel
dBA	A-weighted decibels
DC	direct current
DOD	United States Department of Defense
DOE	United States Department of Energy
DOI	United States Department of Interior
DPM	diesel particulate matter
DPV1	Devers-Palo Verde No. 1 Transmission Line

DPV2	Devers-Palos Verde 2 Transmission Line
DRECP	California Desert Renewable Energy Conservation Plan
DTC/C-AMA	George S. Patton's World War II Desert Training Center/California-Arizona Maneuver Area
DTCCL	Desert Training Center California-Arizona Area Cultural Landscape
DTSC	Department of Toxic Substances Control
DWMA	Desert Wildlife Management Area
DWR	California Department of Water Resources
EAP	Emergency Action Plan
ECCMP	Environmental and Construction Compliance Monitoring Plan
ECM	Environmental Compliance Manager
ECP	Eagle Conservation Plan
EDD	California Employment Development Department
EIC	Eastern Information Center
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMF	Electric and Magnetic Field
EPAct	Energy Policy Act of 2005
EPCRA	Emergency Planning and Community Right-To-Know Act of 1986
EPRI	Electric Power Research Institute
EPS	Emission Performance Standard
ESA	environmentally sensitive area or Environmental Science Associates
FAA	Federal Aviation Administration
FE	Federally listed as endangered
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FHSZ	Fire Hazard Severity Zone
FIRM	Flood Insurance Rate Map
FLPMA	Federal Land Policy and Management Act
FMAP	Fire Management Activity Plan
FR	Federal Register
FRA	Federal Responsibility Area
ft	foot
FT	Federally listed as threatened
FTA	Federal Transit Administration
FTE	full-time equivalent

FY	fiscal year
g	gravity
G	Gauss
gal	gallon
GCL	geosynthetic clay liner
GDP	gross domestic product
gen-tie	generation transmission
GHG	greenhouse gas
GIS	geographic information system
GLO	General Land Office
gpd	gallons per day
gpd/ft	gallons per day per foot
gpd/ft^2	gallons per day per square foot
gpm	gallons per minute
GPS	global positioning system
GSEP	Genesis Solar Energy Project
GWP	global warming potential
H_2S	hydrogen sulfide
HCP	habitat conservation plan
HDPE	high-density polyethylene
HFCs	hydrofluorocarbons
HMBP	Hazardous Materials Business Plan
hp	horsepower
HPTP	Historic Properties Treatment Plan
HWCL	Hazardous Waste Control Law
Hz	Hertz
I-10	Interstate-10
IBC	International Building Code
IEEE	Institute of Electrical and Electronics Engineers
IIPP	Injury and Illness Prevention Program
IM	Instructional Memorandum
in/mo	inches per month
in/sec	inches per second
in/yr	inches per year
IPCC	International Panel on Climate Change
kg	kilogram
KOP	key observation point

kV	kilovolt
kW	kilowatt
kWh	kilowatt-hour
L_{90}	The A-weighted noise level that is exceeded 90 percent of the time during the measurement period.
lbs	pounds
LCD	liquid crystal display
L_{dn}	day-night average noise level
L_{eq}	equivalent continuous sound level
LEPC	local emergency planning committee
LLC	Limited Liability Corporation
LOS	level of service
LRA	Local Responsibility Area
LTVA	Long-Term Visitor Area
m	meter
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Level
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
mg/L	milligrams per liter
mg/m^3	milligrams per cubic meter
mi	mile
ml	milliliter
mm	millimeter
MM	Modified Mercalli
MMRCP	Mitigation Monitoring, Reporting, and Compliance Program
mph	miles per hour
MRDS	Mineral Resources Data System
MRZ	Mineral Resource Zone
MSA	Metropolitan Statistical Area
MSEP	McCoy Solar Energy Project
MW	megawatt
MWh	megawatt-hour
N_2O	nitrous oxide
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NECO	Northern and Eastern Colorado Desert Coordinated Management Plan
NEPA	National Environmental Policy Act

NERC	North American Electric Reliability Corporation
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NFWF	National Fish and Wildlife Foundation
NHPA	National Historic Preservation Act
NLCS	National Landscape Conservation System
NO	nitric oxide
NO_2	nitrogen dioxide
NOA	Notice of Availability
NOI	Notice of Intent
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NPS	United States National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NREL	National Renewable Energy Laboratory
NSPS	New Source Performance Standard
NSR	New Source Review
NTP	Notice to Proceed
NWIS	National Water Information System
O&M	operation and maintenance
O_2	oxygen
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OHV	off-highway vehicle
OSHA	United States Occupational Safety and Health Administration
PA	Plan Amendment
PAR	Property Analysis Record
PCPI	per capita personal income
PCS	power conversion station
PDC	Power Distribution Center
PEIS	Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States
PFCs	perfluorocarbons
PFYC	Potential Fossil Yield Classification
PGA	peak ground acceleration
PL	Public Law
PM	particulate matter

PM10	particulate matter less than 10 microns in diameter
PM2.5	particulate matter less than 2.5 microns in diameter
POD	Plan of Development
PPE	Personal Protective Equipment
ppm	parts per million
PRC	Public Resources Code
PRPA	Paleontologic Resources Preservation Act
PSD	Prevention of Significant Deterioration
PSSCFO	Palm Springs South Coast Field Office
PTNCL	Prehistoric Trails Network Cultural Landscape
PUP	Public Use Permit
PV	photovoltaic
PVGB	Palo Verde Groundwater Basin
PVID	Palo Verde Irrigation District
PVMGB	Palo Verde Mesa Groundwater Basin
PVVGB	Palo Verde Valley Groundwater Basin
PVVTA	Palo Verde Valley Transit Agency
R	State characterized as rare
RCFD	Riverside County Fire Department
RCRA	Resource Conservation and Recovery Act of 1976
RCTC	Riverside County Transportation Commission
REAT	Renewable Energy Action Team
RMP	Resource Management Plan
ROD	Record of Decision
ROW	right-of-way
RPS	Renewables Portfolio Standard
RQ	reportable quantity
RV	recreational vehicle
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act of 1986
SCADA	supervisory control and data acquisition
SCE	Southern California Edison
SDWA	Safe Drinking Water Act
SE	State listed as endangered
SERC	state emergency response commission
SEZ	Solar Energy Zone
SF	Standard form
SF_6	sulfur hexafluoride

SHPO	State Historic Preservation Officer
SMARA	Surface Mining and Reclamation Act
SO_2	sulfur dioxide
SO_4	sulfate
SOPs	standard operating procedures
SO_X	sulfur oxides
SPCC	Spill Prevention Control and Countermeasures
SRA	State Responsibility Area
ST	State listed as threatened
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCR	The Climate Registry
TDS	Total Dissolved Solids
TNC	The Nature Conservancy
TSCA	Toxic Substances Control Act of 1976
UL	Underwriters Laboratory
U.S.	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USDOT	Unite States Department of Transportation
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UXO	unexploded ordnance
UV	ultraviolet
V	volts
VdB	velocity decibel
VMT	vehicle miles traveled
VOC	volatile organic compound
W	watts
WAPA	Western Area Power Administration
WDR	Waste Discharge Requirement
WEAP	Worker Environmental Awareness Program

WECC	Western Electricity Coordinating Council
WHMA	Wildlife Habitat Management Area
WL	Watch List
W/m^2	watts per square meter
WNV	West Nile Virus
WRCC	Western Regional Climate Center
WSA	Water Supply Assessment
yr	year

CHAPTER 8
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