DRAFT ENVIRONMENTAL IMPACT REPORT

Sapphire Solar Project



AUGUST 2024

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ES Executive Summary

ES.1 Introduction

EDF Renewables Development, Inc. (EDFR) on behalf of Sapphire Solar, LLC (Applicant) proposes to entitle, construct, operate, maintain, and decommission the Sapphire Solar Project (Project). The Project is a utility-scale solar photovoltaic (PV) electrical generating and storage facility that will generate and deliver renewable electricity to the statewide electricity transmission grid.

The Project is located on approximately 1,123 acres, of which approximately 1,082 acres is located on private lands and approximately 41 acres is located on land administered by the U.S. Department of Interior, Bureau of Land Management (BLM), Palm Springs-South Coast Field Office (Figure 2-1, Project Location). The approximately 41-acre area on BLM-administered lands would be limited to the Linear Facility Routes (LFRs). The Project's solar site (solar site) would include up to 117 megawatts (MW) of PV solar generation and up to 117 MW of battery storage. The two LFRs would include one 230-kilovolt (kV) generation tie (gen-tie) line, two access roads (one would be constructed for primary access and one for County required secondary access for emergency services), and one collector line route. The Project would interconnect with the Southern California Edison (SCE) 230-kV Red Bluff Substation via line tap on the existing Desert Harvest gen-tie line located on lands administered by the BLM. The Applicant would site the solar facility within Riverside County's jurisdiction, requiring a Conditional Use Permit (CUP 220035) and Public Use Permit (PUP 220002) for construction, operation, and decommissioning.

Public lands within the Project site are designated as a Development Focus Area (DFA) by the Desert Renewable Energy Conservation Plan (DRECP) and associated Record of Decision (ROD) signed on September 14, 2016, and thus, have been targeted for renewable energy development. The U.S. Bureau of Land Management (BLM) is the lead agency under the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4321 et seq, because the Project is partially located on federal land under management of the BLM.

The Project would be operational as early as December 2025 and would operate for a minimum of 39 years. Following facility decommissioning and removal, the area would be reclaimed per applicable regulations in effect at the time of decommissioning.

ES.2 Project Objectives

The Applicant's purpose for the Project is to generate, store, and transmit renewable energy to the statewide wholesale electricity grid in support of California renewable energy goals. The Applicant's identified Project objectives are:

- Utilize property within Riverside County to develop an economically feasible and commercially financeable project for the delivery of up to 117 MW of affordable wholesale solar PV energy generation and up to 117 MW of battery energy storage capacity to California ratepayers under long-term contracts with electricity service providers.
- Minimize environmental impacts and land disturbance associated with solar development by maximizing facility siting on relatively flat, previously disturbed agricultural lands with high solar insolation value, near an identified "solar energy zone" / "Development Focus Area" and in close proximity to road access and established utility corridors.
- Support California's efforts to reduce greenhouse gas (GHG) emissions consistent with the timeline established in 2006 under California Assembly Bill 32, the Global Warming Solutions Act of 2006, which requires the California Air Resources Board to reduce statewide emissions of GHGs to at least

the 1990 emissions level by 2020.[1] This timeline was updated in 2016 under SB 32, which requires that statewide GHG emissions are reduced to at least 40% below the statewide GHG emissions limit by 2030.[2]

- Support California's aggressive RPS Program consistent with the timeline established by SB 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases"), as approved by the California legislature and signed by Governor Brown in September 2018, which increases RPS in 2030 from 50% to 60% and establishes a goal of 100% RPS by 2045.[3]
- Further the goals of AB 1279, the California Climate Crisis Act, to achieve net zero greenhouse gas emissions no later than 2045, and SB 1020, the Clean Energy, Jobs, and Affordability Act of 2022, requiring that eligible renewable energy resources and zero-carbon resources supply 90 percent of all retail sales of electricity to California end-use customers by 2035.
- Expand the reach of renewable energy development through the creation of high-capacity battery energy storage systems (BESS) that help to solve California's "duck curve" power production problem and Increase energy storage opportunities to meet statewide renewable energy goals and support grid reliability.
- Bring sales tax revenues to Riverside County by establishing a point of sale in the County for the procurement of most major project services and equipment.
- Provide green jobs with living wages to Riverside County residents and the State of California.

ES.3 Public Involvement

ES.3.1 Notice of Preparation

In compliance with California Environmental Quality Act (CEQA) Guidelines Section 15082, a Notice of Preparation (NOP) was issued on May 12, 2023 (State Clearinghouse Number 2023050303). The NOP described the Project, its location, the environmental review process, potential environmental effects, and opportunities for public involvement. The NOP solicited input regarding the scope and content of the environmental information to be included in the Environmental Impact Report (EIR).

ES.3.2 CEQA Public Scoping

The public scoping period commenced on May 12, 2023, with the issuance of the NOP, which summarized the Project and requested comments from interested parties. Riverside County conducted a public scoping meeting in-person and virtually at the Riverside County Planning Department on June 5, 2023, 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. Approximately 6 members of the public attended the scoping meeting in person and virtually. The public scoping period ended on June 12, 2023; however, during the NOP scoping meeting the County approved a 2-week extension, which

[1] Global Warming Solutions Act. September 2006. California State Assembly. Bill No. 32. www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf.

[2] Global Warming Solutions Act: emissions limit. September 2016. California State Senate. Bill No. 32. leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32.

[3] Senate Bill No. 100. September 2018. leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100.

extended the end date to June 26, 2023. In total, 15 different entities submitted written comment letters during the CEQA scoping period. An additional three letters were received outside of the scoping period.

ES.3.3 Areas of Controversy/Public Scoping Issues

Concerns expressed by the public and agencies at the scoping meeting and during the public scoping period were regarding these resource topics: project description, purpose and need, biological resources visual resources, air quality and greenhouse gas emissions, cultural and tribal cultural resources, existing and planned land uses, energy, public health and safety, hydrology and water quality, water supply, soils, wildfire, mitigation measures, indirect and cumulative impacts, and alternatives. A scoping summary report is provided in EIR Appendix A. Public scoping comments are summarized in EIR Chapter 1, Introduction, Section 1.6, Scoping Comments, and in the individual resource topics addressed in Chapter 3, Environmental Analysis.

ES.4 Project

ES.4.1 Project Location

The Project site is located in eastern Riverside County, in southern California. The Project is primarily located on private lands with small linear features (LFRs) located on adjacent BLM-administered land. The Project site is located approximately 3 miles north of Desert Center, approximately 40 miles west of the City of Blythe, and 3.5 miles north of Interstate (I) 10. The Project is bounded on the north, east, and west sides by BLM lands and to the south by Belsby Avenue. Melon Street runs along the west side of the Project boundary and Jojoba Street on the east. The east side of the Project site is located adjacent to California State Route (SR) 177/Rice Road. There is an operational semi-developed/aquaculture facility to the west. Figure 2-1 illustrates the location of the Project relative to major highways and access roads.

In addition to vacant, undeveloped lands featuring scattered and low desert shrubs , electrical distribution infrastructure, and informal access roads, the proposed Easley Renewable Energy Project, being developed by Intersect Power (which has no affiliation to the Sapphire Solar Project or EDFR) would surround the Project on almost all sides; the existing Desert Sunlight and Desert Harvest solar projects are located north of the Project site; the existing Athos Solar Project is located south, northeast, and east of the Project site; and the recently operational Oberon Solar Project (a series of scattered yet interconnected, post-mounted photovoltaic solar array sites generally located to the south and east of SR-177) is located to the south of the Project site and Lake Tamarisk. The Project would connect to the electrical grid and deliver energy through the 230-kV Red Bluff Substation located approximately 5 miles south east of the community of Desert Center.

ES.4.2 Project Components

The Project consists of the solar site (located on private land) and two LFRs (located on BLM Land). The proposed solar site components on private lands include the following:

- Solar field with a capacity of 117 MW
- Crystalline silicon panels, copper indium gallium selenide panels, bifacial panels, or Cadmium Telluride panels
- Single axis tracker components
- Direct Current (DC) to Alternating Current (AC) power inverters at each solar block

- Transformer(s)
- Integrated, on-site battery energy storage system (BESS) with a capacity of 117 MW
- On-site or off-site operations and maintenance (O&M) building
- On-site substation (including a generator and propane tank for emergency use)
- Underground or aboveground (or a combination of both) 34.5-kV collection system
- Underground or aboveground optical ground wire (OPGW)
- Up to three on-site groundwater wells
- Microwave/communications tower(s)
- Meteorological station and albedometer weather station
- Staging area for construction trailers and construction parking
- Up to five temporary laydown areas throughout the Project site
- A roadway system consisting of internal and perimeter roadways
- Integrated Supervisory Control and Data Acquisition (SCADA) system
- Inverter Stations and Transformers
- Electrical Collection System

The Project components on BLM lands may include the following:

- 230-kV transmission line connecting solar and BESS project to the electrical grid
- Main and secondary access road to the Project for construction and O&M
- 34.5-kV buried collector line to bring power generated from the solar arrays to the Project substation
- 12-kV distribution line for bringing permanent power to the on-site O&M building, backup power to the on-site electrical substation, backup power to the BESS, and temporary power during construction.

ES.5 Alternatives

ES.5.1 Alternatives Analyzed in Detail

Alternative 1: No Project Alternative. Under the No Project Alternative, the construction of a solar generating facility and associated infrastructure would not occur. This alternative discusses existing conditions as well as what would be reasonably expected to occur in the foreseeable future if the Project was not approved and does not take place.

Alternative 2: Reduced Footprint Alternative. This alternative was developed to address concerns from agencies and the public during scoping and would modify the Project in the following ways:

- Reduction in solar facility site acreage by approximately 639.22 acres by eliminating the development of parcels under a Williamson Act contract.
- Reduction of solar energy generation and integrated energy storage capacity (compared to 117 MW under the Project).

- Relocation of the on-site substation and O&M facility.
- LFR B would be located in the same area as the Project, however it would be approximately 12.46 acres, which is approximately 5.88 acres greater than the Project, as it no longer would overlap with the solar component.
- Addition of two roads and buried collection lines to connect the separate solar site components.

Alternative 3: Private Linear Facility Route Alternative. Under this alternative all components of the Project located on BLM lands, which include LFRs A, B_1, and B_2, would be removed and replaced with new LFRs 1 and 2 located solely on private, non-federal lands. This alternative would modify the Project in the following ways:

- The gen-tie route would be approximately 5.1 miles long, which would be approximately 3.36 miles longer than the Project's proposed approximately 1.74-mile-long LFR A.
- The private gen-tie route would result in an increase of permanent disturbance of approximately 58.5 acres.

LFR 2 would be slightly longer than the route under the Project. Under this alternative, LFR 2 would be approximately 1.07 miles long. Under the Project, LFR B would be approximately 0.72 miles long.

ES.5.2 Alternatives Considered but Eliminated

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 Project.

Alternatives to the Project were identified through the scoping process, informational public meetings, and preliminary studies. A number of potential alternatives to the 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:

- **Alternative Solar Technologies:** The following alternative solar technologies were screened and eliminated from detailed analysis since they are infeasible or would have greater impacts.
  - *Solar Power Tower Technology:* Solar power tower technology is a concentrating solar power (CSP) technology that 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 [°F]) to produce steam and run a center 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 CSP power tower facility is comparable to that required for a PV project. This alternative was eliminated from consideration because no substantial reduction in impacts would occur under this alternative technology and visual impacts would likely be greater due to the height of the towers. In addition, due to the extent of the facility and the height of the power towers as well as a greater potential for glare, impacts to the Desert Center Airport would be potentially greater under this alternative. It has also been suggested that due to a phenomenon known as "solar flux," power tower projects pose a greater risk to avian

species by creating an invisible zone where the concentrated solar power can singe feathers and interfere with flight. The fact that the nearby Palen Solar Energy Project was previously evaluated as a solar power tower project and struggled to secure approvals due to these same impacts before switching to PV solar technology further supports the conclusion that this technology is not feasible in this area.

- *Solar Parabolic Trough Technology:* Parabolic trough technology is another CSP technology that uses large, U-shaped (parabolic) reflectors (focusing mirrors) that have fluid-filled pipes running along their center, or focal point. The mirrored reflectors are tilted toward the sun and focus sunlight on the pipes to heat the heat transfer fluid inside, similar to the solar power tower technology. The hot fluid is then used to boil water, which makes steam to run conventional steam turbines and generators. Solar trough fields have stringent grading requirements, as parabolic troughs must be almost level along their troughs, and grades perpendicular to the troughs are generally benched to two percent or less. Therefore, most of the solar site would need to be graded and scraped free of vegetation. Use of solar trough technology would also likely require engineered drainage channels along the solar site boundary to intercept any modeled off-site surface flows and convey them around and through the site for discharge. Therefore, similar to solar power tower and other CSP technologies, parabolic trough technology has been eliminated from consideration because it would have the potential for more severe impacts than the proposed solar PV technology. These impacts would include more dramatic degradation of visual resources (due to use of mirrors), more extensive ground disturbance, increased industrial construction for the turbines and power blocks, and use of potentially hazardous heat transfer fluids. The fact that the nearby Palen Solar Energy Project was previously evaluated as a solar trough project (as well as a solar power tower project) and struggled to secure approvals due to these same impacts before switching to PV solar technology further supports the conclusion that this technology is not feasible in this area.
- *Distributed Solar Technology:* There is no single accepted definition of distributed solar technology. The 2011 Integrated Energy Policy Report 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 PV panels that would absorb solar radiation and convert it directly to electricity. The PV panels could be installed on residential, commercial, or industrial building rooftops, parking lots or areas adjacent to existing structures such as substations. To create a viable alternative to the Project, there would have to be sufficient newly installed panels to generate up to 117 MW of capacity, which would be similar in size to the Project. Alternatives to the Project that involve rooftop installation of solar generating facilities would avoid the loss of carbon sequestration that would otherwise occur due to the land use change related to construction and operation of the Project. Although there is potential to achieve up to 117 MW of distributed solar energy in the greater California area, the limited number of existing facilities makes it unlikely to be feasible or present environmental benefits. 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, the additional work needed to prepare rooftops to support a solar installation, and the need to develop the deals to secure the same amount of PV-produced electricity make this type of alternative infeasible. The fact that distributed generation projects might have fewer impacts on certain resources because they do not utilize substations and transmission facilities 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 MWs 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. Challenges associated with the implementation of a distributed solar technology include widely varying codes, standards, and fees; environmental requirements and permitting concerns; interconnection of distributed generation; inefficiencies; and integration of distributed generation. The significant barriers to consolidating power generated through a distributed network of sites would furthermore make it unlikely that the Project could achieve its storage goals and provide energy when the sun is not shining.

- **Alternative Renewable Energy Technologies:** Alternative renewable energy technologies, such as geothermal, biomass, tidal and wave power technologies, have been eliminated from consideration because they are not within the Applicant's area of expertise and would not be technically or economically feasible for the Applicant to implement. The BLM DFA lands within the Desert Center area have been targeted for solar energy development and are not within a wind energy zone. Given their height, installation of wind turbines would create greater operational visual impacts than the Project, as well as noise concerns to the community of Lake Tamarisk and aviation safety concerns around the Desert Center Airport.
- **Conservation and Demand-Side Management:** This alternative is not technically feasible as a replacement for the Project because California utilities are already required to achieve aggressive energy efficiency goals. Affecting consumer choice to the extent that would be necessary for a conservation and demand-side management solution would be beyond the BLM, Regional Water Quality Control Board, and/or the Applicant's control. Even if additional energy efficiency beyond that occurring in the baseline condition may be technically possible, it is speculative to assume that energy efficiency alone would achieve the necessary greenhouse gas 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. Furthermore, conservation and demand-side management would not by themselves provide the renewable energy required to meet the California renewable energy goals, a stated Project objective. Therefore, conservation and demand-side management has been eliminated from detailed analysis because it is considered remote or speculative and would not meet the stated Project objectives.

ES.6 Environmental Impacts

Detailed descriptions of impacts of the Project are provided in Chapter 3, along with a discussion of cumulative impacts. The impact analysis in the EIR was prepared by topic area and presents an assessment of the identified direct and indirect impacts and discloses the level of significance for each impact. The mitigation measures identified to reduce impacts of the Project would also be implemented for any

alternative to the extent applicable. A significant impact is defined under CEQA as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (CEQA Guidelines Section 15382). The categories of potential effects are provided below.

Direct Effects	Effects caused by the Project that occur at the same time and place as the Project.
Indirect Effects	Effects caused by the Project that occur later in time, or further in distance, but are still reasonably foreseeable.
Residual Impacts	Impacts that still meet or exceed significance criteria after application of mitigation and, therefore, remain significant.
Cumulative Impacts	Impacts resulting from the Project when combined with similar effects of other past, present, and reasonably foreseeable future projects, regardless of which agency or person undertakes such projects (cumulative impacts could result from individually insignificant but collectively significant actions taking place over time).
Short-Term Impacts	Impacts expected to occur during construction or decommissioning that do not have lingering effects for an extended period after the activity is completed.
Long-Term Impacts	Impacts that would persist for an extended period of time.

The significance of each impact is determined based on an analysis of the impact, compliance with any recommended mitigation measure, and the level of impact remaining compared to the applicable significance criteria relevant to a particular resource. Impacts are classified as one of the five categories listed below.

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

ES.7 Alternatives Comparison and Environmentally Superior Alternative

The following alternatives have been determined to represent a reasonable range of alternatives that have the potential to feasibly attain most of the basic objectives of the Project, but which may avoid or substantially lessen any of the significant impacts of the Project. The following alternatives are analyzed in detail in the EIR:

- Alternative 1: No Project Alternative
- Alternative 2: Reduced Footprint Alternative
- Alternative 3: Private Linear Facility Route Alternative

Table ES-1*,* Summary of Comparison of Alternatives Impacts*,* provides a summary of the relative impacts and feasibility of each alternative, and Table ES-2*,* Summary of Project Impacts*,* provides a summary of the potential impacts of the Project.

ES.7.1 Alternatives Impact Summary

Table ES-1. Summary of Comparison of Alternatives Impacts

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction and operation of a solar facility on approximately 1,123 acres would include up to 117 megawatts (MW) of PV solar generation and up to 117 MW of battery storage. The two LFRs would include one 230-kilovolt (kV) generation tie (gen-tie) line, two access roads (one would be constructed for primary access and one for County required secondary access for emergency services), and one collector line route. The Project would interconnect with the Southern California Edison (SCE) 230-kV Red Bluff Substation via line tap on the existing Desert Harvest gen-tie line located on lands administered by the BLM.	N/A
Alternative 1: No Project Alternative	No development would occur on the Project site. The Project site would remain unchanged.	■ Required by CEQA ■ Avoids need for CUP or PUP ■ Avoids the significant and unavoidable impact associated with aesthetics ■ Greater impacts to GHGs ■ Less impact in all remaining resources ■ Does not meet any of the Project objectives
Alternative 2: Reduced Footprint Alternative	The Project would be reduced through the removal of the parcels under a Williamson Act contract (approximately 639.22 acres).	■ Less impacts to aesthetics, agriculture and forestry resources, air quality, cultural resources, energy geology and soils, hydrology and water quality, noise, and wildfire ■ Greater impacts to GHGs ■ Similar impacts to the remaining resources ■ Does not avoid the significant and unavoidable impact to aesthetics from KOP 10

Table ES-1. Summary of Comparison of Alternatives Impacts

Alternative	Description	Basis for Selection and Summary of Analysis
		■ Significantly reduces the solar energy production and integrated energy storage ■ Requires CUP and PUP ■ Would not meet all the Project objectives
Alternative 3: Private Linear Facility Route Alternative	All components of the Project located on BLM lands, which include LFRs A, B1, and B2, would be removed and replaced with new LFRs 1 and 2 located solely on private, non-federal lands.	■ Greater impacts to aesthetics, air quality, biological resources, cultural resources, energy, geology and soils, greenhouse gas emissions, hydrology and water quality, and noise ■ Similar impacts to the remaining resources

ES.7.2 Environmentally Superior Alternative

An EIR must identify the environmentally superior alternative to the project. Alternative 1, the No Project Alternative, would be environmentally superior to the Project on the basis of its minimization or avoidance of physical environmental impacts. However, CEQA Guidelines Section 15126.6(e)(2) states:

The "no project" analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

Because the No Project Alternative cannot be the Environmentally Superior Alternative under CEQA the Reduced Footprint Alternative would be the Environmentally Superior Alternative since it would result in fewer impacts to environmental resources compared to the Private Linear Facility Route Alternative. The Reduced Footprint Alternative would have a reduced level of ground disturbance and would be a greater distance from the closest residences, which would reduce construction-related disturbances such as noise. However, while the visual impact of this alternative would be reduced compared to the Project, impacts to aesthetics, specifically KOP 10, would remain significant and unavoidable.

Although the Reduced Footprint Alternative would be feasible and result in fewer impacts than the Project it would not meet all the Project objectives because it would reduce the amount of land available for placement of the solar array and BESS, which would result in a reduction of the energy generation and storage capacity of the Project, would not be economically feasible or commercially financeable project, and would not maximize the full potential of the solar resource on lands within the Project property. However, because the Reduced Footprint Alternative would achieve many of the Project objectives, however to a lesser extent than the Project, and would have fewer impacts when compared to the Project, the Reduced Footprint Alternative is considered environmentally superior.

ES.7.3 Summary of Impacts and Mitigation Measures

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
3.2 Aesthetics			
Threshold A: Would the project have substantial adverse effect on a scenic vista?	Less than Significant with Mitigation Incorporated (Construction and Decommissioning) Less than Significant (Operations)	**MM AQ-2 Fugitive Dust Control Plan.** Prior to Riverside County's approval of any construction-related permits, the Project Applicant or its designee shall prepare a comprehensive Fugitive Dust Control Plan consistent with South Coast Air Quality Management District (SCAQMD) Rule 403. The plan shall include the following: ■ The name(s), addresses(es), and phone number(s) of person(s) responsible for the preparation, submission, and implementation of the plan ■ A description and location of all construction-related activities o A comprehensive list of all fugitive dust emission sources related to Project construction. o Identification of a Dust Control Supervisor for the Project that meets the following requirements: o Is employed by or contracted with the Project Applicant o Is on site or is available to be on site after initial contact. o Has the authority to expeditiously employ sufficient dust mitigation measure to ensure compliance with all Rule 403 and 403.1 requirements. o Has completed the SCAQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class. ■ At a minimum, the plan shall include the following dust control measures: o (a) Unpaved Roads. All unpaved access roadways used for Project-related travel to the site shall be stabilized with a non-toxic, Bureau of Land Management-approved chemical stabilizer in sufficient quantity and frequency to maintain a stabilized surface for the duration of the construction period. It is assumed that Envirotac II/Rhino	Less than Significant (Construction, Decommissioning, and Operations)

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Snot, Earth Glue, and FSB 1000 palliatives will be approved for use during Project construction. ○ (b) Clearing and Grubbing. Prior to, during, and after site preparation where vegetation is cleared, soil stability shall be maintained through watering of the site. Live perennial vegetation shall be maintained where possible, and water shall be applied in sufficient quantities to prevent generation of dust plumes. ○ (c) Vehicle Speeds. Vehicle speeds shall be restricted to 15 miles per hour on all roads used for any vehicular traffic at the Project site. Speeds shall be restricted through worker notifications, signage, or any other necessary means. ○ (d) Disturbed Areas. All soil that is actively excavated or graded shall be watered or stabilized with a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes. ○ (e) Haul Trucks. All haul trucks shall use tarps or other suitable enclosures when transporting bulk materials to/from/throughout the Project site. Material shall be stabilized while loading, and maintain at least 6 inches of freeboard on haul vehicles. Haul trucks shall be washed prior to leaving the site to remove soil deposits and minimize track-out. ○ (f) Storage Piles. All open storage piles (i.e., any accumulation of bulk material) shall be watered on at least 80% of the surface area on a daily basis when there is evidence of wind-driven fugitive dust, or shall be covered with temporary coverings. ○ (g)Monthly Environmental Monitoring Reports. The Dust Control Supervisor for the Project shall prepare monthly compliance reports to be submitted for approval by the County that demonstrate compliance with the Fugitive Dust Control Plan and associated measures.	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Threshold B: Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact	No mitigation would be required.	No Impact
Threshold C: Would the project, in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Less than Significant with Mitigation Incorporated (Construction and Decommissioning) Significant and Unavoidable (Operations)	**MM AQ-2 Fugitive Dust Control Plan.** See Section 3.2 Aesthetics, Threshold A above. **MM VIS-1 Project Design.** To the extent possible, the Applicant or Project owner/operator shall implement proper design fundamentals to reduce the visual contrast to the landscape. Design strategies to address these fundamentals may include the following: ■ The boundaries of all areas to be disturbed shall be delineated with stakes and flagging before construction, in consultation with the Designated Biologist, County Visual specialist, and the Bureau of Land Management Visual Resource Management specialist. ■ Spoils and topsoil where feasible shall be stockpiled in disturbed areas approved by the Designated Biologist. ■ All disturbances, Project vehicles, and equipment shall be confined to the flagged areas. ■ Where retention of vegetation is not possible, vegetation along roadways and boundaries of other disturbed areas shall be scalloped (refers to incorporating irregular [i.e., non-straight] edges of vegetation to make edges/transitions between managed and non-managed areas appear more natural) and feathered (refers to thinning edges of vegetation to make transitions from vegetated to	Less than Significant (Construction and Decommissioning) Significant and Unavoidable (Operations)

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		non-vegetated area softer and less abrupt) to reduce the hard line visual impact, especially as seen from State Route 177, Interstate 10, and the North Chuckwalla Mountains Petroglyph District. ■ New and existing roads that are planned for construction, widening, or other improvements: o Roads shall not extend beyond the minimum necessary and shall be flagged as described above. o All vehicles passing or turning around shall do so within the planned impact area or in previously disturbed areas. o Where new access is required outside of existing roads or the construction zone, the route shall be clearly marked (i.e., flagged or staked) before the onset of construction. ■ Disturbed area will be minimized to the extent feasible and efforts will be made to blend the disturbed areas into the characteristic landscape. o Where feasible, replace soil, brush, rocks, and natural debris over disturbed area.	
Threshold D: Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold E: Would the project have a substantial effect upon a scenic highway corridor within which it is located?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold F: Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and unique or landmark features; obstruct any prominent scenic vista or	Less than Significant with Mitigation Incorporated	**MM AQ-2 Fugitive Dust Control Plan**. See Section 3.2 Aesthetics, above.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
view open to the public; or result in the creation of an aesthetically offensive site open to public view?			
Threshold G: Would the project interfere with the nighttime use of the Mt. Palomar Observatory, as protected through Riverside County Ordinance No. 655?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold H: Would the project expose residential property to unacceptable light levels?	Less than Significant	No mitigation would be required.	Less than Significant
Cumulative Impacts	Cumulatively Considerable	See Section 3.2 Aesthetics, Threshold C above.	Cumulatively Considerable
3.3 Agriculture and Forest Resources			
Threshold A: Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No Impact	No mitigation would be required.	No Impact
Threshold B: Would the project conflict with existing agricultural zoning, agricultural use or with land subject to a Williamson Act contract or land within a Riverside County Agricultural Preserve?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold C: Would the project cause development of non-	Less than Significant	No mitigation would be required.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
agricultural uses within 300 feet of agriculturally zoned property (Ordinance No. 625 "Right-to-Farm")?			
Threshold D: Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold E: Would the project 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))?	No Impact	No mitigation would be required.	No impact
Threshold F: Would the project result in the loss of forest land or conversion of forest land to non-forest use?	No Impact	No mitigation would be required.	No Impact
Threshold G: Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use?	No Impact	No mitigation would be required.	No Impact
Cumulative Impacts	Less than Significant	No mitigation would be required.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
3.4 Air Quality			
Threshold A: Would the project conflict with or obstruct implementation of the applicable air quality plan?	Less than Significant with Mitigation Incorporated	**MM AQ-1: Construction Equipment Emission Reductions.** Prior to Riverside County's approval of any construction-related permits, the Project Applicant or its designee shall require its construction contractor to demonstrate that the following measures are implemented during construction: ■ All off-road, diesel-powered equipment shall be powered with California Air Resources Board-certified Tier 4 final engines. An exemption from this requirement may be granted if (1) the Applicant documents that equipment with Tier 4 final engines is not reasonably available, and (2) the required corresponding reductions in criteria air pollutant emissions can be achieved for the Project from other combinations of construction equipment. Before an exemption may be granted, the Applicant's construction contractor shall: (1) demonstrate that at least two construction fleet owners/operators in the County were contacted and those owners/operators confirmed Tier 4 final equipment could not be located within the County during the desired construction schedule; and (2) the proposed replacement equipment has been evaluated using the California Emissions Estimator Model or other industry standard emissions estimation method and documentation provided to the County to confirm that necessary Project-generated emissions reduction are achieved. ■ With the exclusion of pile drivers, ensure that no one piece of off-road, diesel-powered construction equipment is operating for more than 8 hours per day during construction. ■ Require that all construction equipment shall be properly tuned and maintained in accordance with manufacturer specifications before and for the duration of construction. ■ Reduce idling time of heavy-duty trucks either by shutting them off when not in use or by reducing the time of idling to	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		no more than 3 minutes (thereby improving upon the 5-minute idling limit required by the state airborne toxics control measure 13 CCR Section 2485). **MM AQ-2 Fugitive Dust Control Plan.** See Section 3.2 Aesthetics, Threshold A above	
Threshold B: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	Less than Significant with Mitigation Incorporated	**MM AQ-1 Construction Equipment Emission Reductions**. See Section 3.4 Air Quality, Threshold A above. **MM AQ-2 Fugitive Dust Control Plan.** See Section 3.2 Aesthetics, Threshold A above.	Less than Significant
Threshold C: Would the project expose sensitive receptors, which are located within one (1) mile of the project site, to substantial pollutant concentrations?	Less than Significant with Mitigation Incorporated	**MM AQ-3 Valley Fever Training.** Prior to any Project grading activity, the primary Project construction contractor will prepare and implement a worker training program that describes potential health hazards associated with Valley Fever, common symptoms, proper safety procedures to minimize health hazards, and notification procedures if suspected work-related symptoms are identified during construction. The worker training program will identify safety measures to be implemented by construction contractors during construction. At a minimum, safety measures will include the following: ■ Provide high efficiency particulate air (HEPA)-filtered air-conditioned enclosed cabs on heavy equipment. Train workers on proper use of cabs, such as turning on air conditioning prior to using the equipment. ■ Provide communication methods, such as two-way radios, for use by workers in enclosed cabs. ■ Provide personal protective equipment (PPE), such as half-mask and/or full-mask respirators equipped with particulate filtration, to workers active in dusty work areas.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		■ Provide separate, clean eating areas with hand-washing facilities for construction workers. ■ Clean equipment, vehicles, and other items before they are moved off site to other work locations. ■ Provide training for construction workers so they can recognize the symptoms of Valley Fever and promptly report suspected symptoms of work-related Valley Fever to a supervisor. ■ Direct workers that exhibit Valley Fever symptoms to immediately seek a medical evaluation. ■ Prior to initiating any grading, the construction contractor will provide the County with copies of all educational training material.	
Threshold D: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less than Significant	No mitigation would be required.	Less than Significant
Cumulative Impacts	Less than Significant with Mitigation Incorporated	**MM AQ-1, MM AQ-2, and MM-AQ-3** mentioned above.	Less than Significant
3.5 Biological Resources			
Threshold A: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state conservation plan?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold B: Would the project have a substantial adverse effect, either directly or through habitat modifications,	Less than Significant with Mitigation Incorporated	**MM BIO-1 Biological Monitoring.** The Applicant shall assign at least one Designated Biologist as the primary point of contact for the lead agencies (BLM and County of Riverside) and permitting agencies (e.g., California Department of Fish and Wildlife, United	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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)?		States Fish and Wildlife Service, and Regional Water Quality Control Board, as applicable) regarding biological resource compliance. The Designated Biologist shall have demonstrated expertise with the biological resources within the Project area. The Designated Biologist duties will vary during the construction, operation, maintenance, and future decommissioning of the Project. Additional Biological Monitor(s), trained and supervised by the Designated Biologist, may be necessary to fulfill compliance with Mitigation Measures and permit conditions. In general, the duties of the Designated Biologist shall include: ■ Communication with representatives of lead and permitting agencies, as appropriate. ■ Conduct or oversee Worker Environmental Awareness Program. ■ Conduct or oversee pre-construction surveys, inspection, and monitoring duties as defined in all Mitigation Measures. ■ Halt any activities in any area if it is determined that the activity, if continued, would cause an unauthorized adverse impact to biological resources. ■ Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions. ■ During construction, prepare and submit monthly compliance reports. During operations, prepare and submit annual compliance reports for the first three (3) years of operations. **MM BIO-2 Worker Environmental Awareness Program (WEAP).** The Applicant shall conduct an education program for all persons employed or otherwise working in the Project area before performing any work on the Project site. The program shall consist of a presentation from the Designated Biologist or Biological Monitor(s) that includes a discussion of the biology and	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		general behavior of special-status species, information about the distribution and habitat, sensitivity of the special-status species to human activities, its legal protection, recovery efforts, penalties for violations. All construction crews and contractors shall be required to participate in WEAP training prior to starting work on the Project. Applicant shall prepare and distribute a fact sheet handout containing this information for workers. WEAP training materials shall be provided in English and Spanish. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures. At a minimum, the WEAP shall: ■ Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation with supporting written material and electronic media, including photographs of protected species, available to all participants. ■ Include a review of Mitigation Measure and permit requirements. ■ Include a review of the special-status species and other sensitive resources that may occur in the Project area, as well as the locations of the sensitive biological resources, their legal status and protections, and measures to be implemented for avoidance of these sensitive resources. ■ Include desert tortoise specific training that includes detailed description of the desert tortoise, distribution and general behavior of the desert tortoise, sensitivity to human activities, regulatory status including prohibitions and penalties incurred for violation, mandatory conservation measures, and procedures if a desert tortoise is observed on-site.	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		■ Provide an explanation of the function of flagging that designates authorized work areas and specify the prohibition of construction activities. ■ Discuss general environmental and safety protocols such as vehicle speed limits, hazardous substance spill prevention and containment measures, and fire prevention and protection measures. ■ Discuss the federal, state, and local regulatory setting (e.g., Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act) and the consequences of non-compliance. ■ Describe workers' responsibilities for avoiding the introduction of invasive weeds onto the Project site and surrounding areas. ■ Provide contact information for the Designated Biologist and instructions for notification of any vehicle-wildlife collisions or dead or injured wildlife species encountered during Project-related activities. ■ Include a training acknowledgment form to be signed by each worker indicating that they received training and shall abide by the guidelines. A record of all personnel trained shall be maintained throughout the construction period. Along with their signature, each worker shall receive a sticker for their hard hat indicating they received the training. **MM BIO-3 Minimization of Impacts to Native Vegetation.** The Applicant shall undertake the following measures during construction and decommissioning to avoid or minimize impacts to natural vegetation: ■ Prior to ground-disturbing activities, work areas (including, but not limited to, staging areas, access	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		roads, and sites for temporary placement of construction materials and spoils) shall be delineated with construction fencing (e.g., the common orange vinyl material) or staking to clearly identify the limits of work. No paint or permanent discoloring agents shall be applied to rocks or vegetation (to indicate surveyor construction activity limits or for any other purpose). Fencing/staking shall remain in place for the duration of construction. ■ All disturbances, access roads, staging areas, vehicles, and equipment shall be confined to the fenced/flagged authorized work areas. ■ To the greatest extent practicable, construction activities shall minimize disturbance to soil and native vegetation. ■ Use best management practices where applicable for prevention and control of soil erosion and to minimize the introduction and spread of invasive plant species. ■ Hazardous materials including motor oil, fuel, antifreeze, hydraulic fluid, and grease shall be contained, and spills or leaks shall be promptly corrected and cleaned up according to applicable regulations. ■ Vehicles and equipment shall be properly maintained to prevent spills or leaks and refueling shall not be conducted outside the authorized work areas or within 100 feet of any sensitive resource (e.g., wetland). ■ Upon completion of construction activities, all unused materials, equipment, staking and flagging, and refuse shall be removed and properly	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		disposed of, including but not limited to wrapping material, cables, cords, wire, boxes, rope, broken equipment parts, twine, strapping, buckets, and metal or plastic containers. **MM BIO-4 Minimization of Impacts to Wildlife.** The Applicant shall undertake the following measures during construction and decommissioning to avoid or minimize impacts to wildlife: ■ Wildlife avoidance. Wherever feasible, Project activities shall avoid interference with wildlife (including ground-dwelling species, birds, and bats) by allowing animals to escape from a work site prior to disturbance. ■ Sensitive biological resources. Sensitive biological resource areas near all work activities shall be clearly communicated and/or marked (e.g., flagged) in the field. Avoidance buffers shall be established and maintained by the Designated Biologist. ■ Minimize traffic impacts. The Applicant shall specify and enforce maximum vehicle speed limits to minimize risk of wildlife collisions and fugitive dust. Vehicles shall not exceed a speed limit of 15 mph on unpaved roads in open habitat where wildlife may be affected. Dust suppression shall occur during all construction activities as needed. ■ Minimize lighting impacts. Night lighting, when in use, shall be designed, installed, and maintained to prevent side casting of light toward surrounding wildlife habitat. New light sources shall be minimized, and lighting shall be designed (e.g., using downcast lights) to limit the lighted area to the minimum necessary. ■ Avoid use of toxic substances. Use of chemicals, fuels, lubricants, or biocides shall comply with all	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		local, state, and federal regulations to minimize the possibility of contamination of habitat or primary or secondary poisoning of predators utilizing adjacent habitats. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation. Soil bonding and weighting agents used for dust suppression on unpaved surfaces shall be nontoxic to wildlife and plants. ■ Minimize noise and vibration impacts. The Applicant shall conform to noise requirements specified in the noise analysis of the Environmental Impact Report to minimize noise to off-site habitat. ■ Water. Potable and non-potable water sources such as tanks, ponds, and pipes shall be covered or otherwise secured to prevent animals (including birds) from entering. Prevention methods may include storing water within closed tanks. Water sources (e.g., hydrants, tanks, etc.) shall be checked periodically by Biological Monitors to ensure they do not create longstanding ponded areas. ■ Food and Trash. No deliberate feeding of wildlife shall be allowed. Further, to avoid indeliberate feeding of wildlife, all food-related trash items, including wrappers, cans, bottles, and food scraps shall always be contained and properly disposed of in self-closing, sealable containers, with lids that latch to prevent wind and wildlife (e.g., ravens and coyotes) from opening the containers. All trash receptacles shall be regularly inspected, emptied, and removed from the Project area at a minimum	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		once a week to prevent spillage and maintain sanitary conditions. ■ Firearms and Dogs. All personnel and any other individuals associated with the Project shall be prohibited from bringing any firearms on the Project site, except those in the possession of authorized security personnel or local, state, or federal law enforcement officials. No pets shall be permitted on the Project site except dogs that may be used to aid in official and approved monitoring procedures/protocols or service dogs under Title II and Title III of the American with Disabilities Act. ■ Wildlife entrapment. All pipes, culverts, or similar structures with a diameter greater than 3 inches and less than 8 inches aboveground shall be inspected by the Designated Biologist or Biological Monitor(s) before the material is moved, buried, or capped. The Designated Biologist or Biological Monitor(s) shall inspect all open holes and trenches a minimum of once a day and just prior to backfilling. If open holes or trenches remain overnight, an escape ramp shall be created every 100 feet to allow wildlife to exit. The ramp may be constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees. If any worker discovers an animal has become trapped, they shall halt activities and notify the Designated Biologist or Biological Monitor immediately. ■ Dead or injured wildlife. Dead or injured special status wildlife species shall be reported to the lead agencies and permitting agencies, as applicable, within 48 hours of detection. The Designated Biologist or Biological Monitor shall complete a	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Wildlife Incident Form and safely move the carcasses out of the road or work area and dispose of the animal. If an animal is entrapped, the Designated Biologist or Biological Monitor shall free the animal if possible, or work with construction crews to free it, in compliance with safety requirements, or work with applicable agencies to resolve the situation. Injured wildlife will be transported to an approved wildlife rehabilitation center. ■ Pest control. No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), may be used within the Project site or in support of any other Project activities. If rodent control must be conducted, the use should be restricted to interiors of buildings and zinc phosphide should be used because of the lower risk of poisoning burrowing mammals. ■ California Natural Diversity Database. All observations of special status species, alive or dead, shall be recorded and reported to the California Natural Diversity Database. **MM BIO-5 Integrated Weed Management Plan.** The Applicant shall prepare and implement an Integrated Weed Management Plan to minimize or prevent noxious, non-native and invasive weeds from infesting the site or spreading into surrounding habitat. For Project components on BLM administered lands (i.e., Linear Facility Routes), the Integrated Weed Management Plan must comply with BLM guidelines. The Integrated Weed Management Plan shall identify weed species occurring or potentially occurring in the Project area, means to prevent their introduction or spread (e.g., vehicle cleaning and inspections), monitoring methods to identify infestations, and timely implementation of manual or chemical (as appropriate) suppression and containment measures to control or eradicate	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		invasive weeds. All construction vehicles (e.g., trucks, trailers, machinery) will be washed (either by water or pressurized air) off-site before entering the Project area to limit the spread of weeds. All wattles or bales will be certified weed-free and will be removed at the completion of activities. The Integrated Weed Management Plan shall identify herbicides that may be used for control or eradication and avoid herbicide use in or around any environmentally sensitive areas. The Integrated Weed Management Plan shall also include a reporting schedule to be implemented by the Designated Biologist. **MM BIO-6 Vegetation Resources Management.** The Applicant shall undertake the following measures during construction to minimize impacts to vegetation resources: ■ The Applicant shall assign a Vegetation Specialist to oversee and implement salvage and transplantation of plant species protected pursuant to BLM policy (conformance with DRECP Conservation and Management Action LUPA-BIO-7) and the California Desert Native Plants Act, as applicable, and implement revegetation of temporarily disturbed areas. On the private lands under the jurisdiction of the County of Riverside, the Applicant shall obtain a permit from the County of Riverside pursuant to the California Desert Native Plants Act for the purposes of salvage or removal of protected species during construction if required. ■ Revegetation of temporarily disturbed areas shall occur within BLM administered lands (i.e., Linear Facility Routes) and will not be implemented on private lands within the Project area (i.e., Solar Site). The nature of revegetation will differ according to each site, its pre-disturbance condition, and the nature of the construction disturbance (e.g., drive and crush versus blading). Revegetation techniques	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		may include soil contouring, replanting of succulents, placing of vertical mulch as crushed, horizontal, or vertical mulch to reduce sun and wind exposure to the soil surface and facilitate plant germination. Areas may also be watered based on the guidance of the Vegetation Specialist. **MM BIO-7 Special-Status Plant Species Mitigation. To** reduce potentially significant impacts to special status plant species, the Applicant shall implement one or a combination of the following strategies: ■ Pre- and post-construction surveys. Potential habitat for special status plant species shall be surveyed during the appropriate season prior to site preparation disturbance; any special status plant species populations or occurrences or suitable habitat would be mapped. Areas that supported special status plant populations or occurrences will be resurveyed during the appropriate season (e.g., spring or summer) for up to two years following the completion of construction to determine natural reestablishment. ■ Off-site compensation. The Applicant shall provide compensation lands consisting of suitable habitat at a 1:1 ratio for occupied habitat affected by the Project. Occupied habitat acreage shall be calculated on the Project site based on including each special-status plant occurrence and a surrounding 100-foot buffer area. Off-site compensation lands would be considered suitable if in proximity to historical occurrence and suitable habitat is present. Off-site compensation lands shall be located within 5 miles of a historical occurrence and include creosote bush scrub.	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		■ Seed collection and propagation. Mitigation shall include seed collection from the affected plant population on the site prior to construction to conserve the germplasm and provide a seed source for restoration efforts. Seed shall be collected under the supervision or guidance of a reputable seed storage facility such as the California Botanical Garden. The costs associated with the long-term storage, seed bulking, and propagation of the seed shall be the responsibility of the Applicant for up to five (5) years. Seed and/or germinated plants can be used for restoration within the Project site, off-site mitigation lands, or other conservation lands as approved by the County of Riverside and applicable permitting agencies. **MM BIO-8 Minimization of Impacts to Birds and Bats.** The Applicant shall undertake the following measures to avoid or minimize impacts to birds and bats. ■ Bird and Bat Conservation Strategy. The Applicant shall prepare a Bird and Bat Conservation Strategy (BBCS) for review and approval by the applicable lead and permitting agencies. The BBCS shall include baseline data on the distribution of bird and bat species within the Project area, risk assessment, measures to avoid and minimize adverse impacts, description of relevant monitoring and reporting, and framework for adaptive management. The BBCS shall include design requirements consistent with the Avian Power Line Interaction Committee (APLIC) guidelines. ■ Nesting Bird Protection. If vegetation removal or ground disturbance occurs during the nesting season (February 1 to August 31), pre-construction surveys	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		for active nests shall be conducted by qualified biologists at the direction of the Designated Biologist. Nest surveys shall be completed no more than 7 days prior to initiation of vegetation removal or ground disturbance and shall be repeated every two weeks in areas of ongoing construction activity. If an active nest is found, an exclusion buffer shall be established and marked in the field by the Designated Biologist. The Project shall maintain a buffer adequate to avoid otherwise prohibited take, possession, or destruction of any bird, nest, or egg. Nesting bird management shall be described further in a Nesting Bird Management Plan or incorporated in the BBCS and submitted to the applicable lead and permitting agencies for review and approval. ■ Burrowing Owl Protection. The Applicant shall prepare and implement a plan to avoid, minimize, and mitigate potential impacts to burrowing owl. The plan shall include pre-construction surveys, protection, and passive relocation consistent with guidelines in the Staff Report on Burrowing Owl Mitigation (CDFG 2012). Burrowing owl protection shall be described further in a Burrowing Owl Avoidance and Relocation Plan or incorporated in the BBCS and submitted to the applicable lead and permitting agencies for review and approval. **MM BIO-9 Desert Kit Fox and American Badger Relocation.** The Applicant shall implement the following measures to protect desert kit fox and American badger: ■ Biological monitors shall perform pre-construction surveys for kit fox/badger dens in the Project disturbance area and a 100 ft (30 m) buffer beyond the Project disturbance area, with landowner	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		permission to access, within 30 days of initiation of construction activities. ■ All potential desert kit fox/badger dens identified during pre-construction surveys shall be monitored for a minimum of three consecutive nights (between August 1 and January 14) or five consecutive nights (between January 15 and July 31) to determine occupancy status. Occupancy monitoring shall be performed using a tracking medium (such as diatomaceous earth or fire clay) and/or infrared camera stations at the entrance(s). Each den shall be classified as inactive or active following the evaluation period. ■ If no tracks are observed in the tracking medium or no photos of the target species are captured after the monitoring period, the den shall be classified as inactive. Inactive dens in the direct path of disturbance may be excavated by hand and backfilled to reduce the likelihood of reuse by badgers or kit fox. Dens not directly impacted by construction shall not be excavated. ■ If an active den is found outside the natal season (between August 1 and January 14), the den may be subject to passive relocation by progressively blocking the den with natural materials (e.g., rocks, dirt, sticks, or vegetation) or artificial, non-injurious materials placed in front of the entrance for a minimum of five consecutive nights to discourage continued use. Additional deterrents such as natural mixtures of aromatic organics (e.g., onions, garlic, and essential oils), transistor radios, and ultrasonic emitters may be used. The use of one-way doors may be used. Installation of one-way doors shall take	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		place in the afternoon while desert kit fox/badgers are inactive and deep within the den complex. After verification that passive relocation has been successful and the den has been unoccupied for a total of five consecutive nights, the den may be fully excavated. ■ If an active den is found during the natal season (January 15 and July 31), a 500-foot (150 m) no-disturbance buffer shall be established. All active dens found during the natal season shall be presumed natal and shall not be subject to passive relocation activities unless approval is obtained from the California Department of Fish and Wildlife. ■ Buffers may be reduced, expanded, or temporarily modified to allow certain low-impact activities (e.g., vehicle access) to occur as determined feasible by the Designated Biologist without adversely affecting the den. All modifications to the size of exclusion buffers or allowance of certain Project activities within the exclusion buffer shall be documented by the Designated Biologist. ■ Current guidelines from the California Department of Fish and Wildlife regarding minimizing transmission of canine distemper virus shall be followed. **MM BIO-10 Stream Protection and Compensation.** Prior to ground-disturbing activities in waters potentially regulated by the state, the Applicant shall confer with the California Department of Fish and Wildlife (CDFW) and the Regional Water Quality Control Board (RWQCB) and, if required, obtain appropriate authorization. The Applicant shall implement all conditions associated with regulatory agency agreements and authorizations including compensatory mitigation and, unless otherwise specified by CDFW and/or the RWQCB, shall implement the best	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		management practices identified below to minimize adverse impacts to streams and watersheds: ■ Construction crews shall minimize disturbance to wetlands, streambeds, and banks of any state-jurisdictional waters to the extent feasible. ■ Vehicles and equipment shall not be operated in standing or flowing water. ■ The Applicant shall prevent water containing mud, silt, or other pollutants from grading or other activities from entering ephemeral drainages or being placed in locations that may be subjected to high storm flows. ■ Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources resulting from Project-related activities shall be prevented from entering ephemeral drainages. ■ No petroleum products or other pollutants from the equipment shall be allowed to enter any state-jurisdictional waters. ■ No broken concrete, debris, soil, silt, sand, bark, slash, sawdust, rubbish, or other organic or earthen material from any construction or associated activity shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into off-site state-jurisdictional waters. ■ Stationary equipment such as motors, pumps, generators, and welders shall be positioned over drip pans. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak.	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Cleanup equipment such as brooms, absorbent pads, and skimmers shall always be on site. The cleanup of all spills shall begin immediately. ■ All excess materials or debris shall be removed from the work area after completion of construction. ■ Project impacts to desert dry wash woodland and unvegetated ephemeral dry wash shall be mitigated by providing compensatory mitigation consistent with MM BIO-13. **MM BIO-11 Desert Tortoise Protection**. No desert tortoise may be handled or relocated without authorization from the California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS). The Applicant shall employ qualified desert tortoise biologist(s) for purposes of implementing desert tortoise protection measures identified below. The Designated Biologist noted in MM BIO-1 may also serve as qualified desert tortoise biologist if they meet the following qualifications. The desert tortoise biologist(s) qualifications shall be subject to review and approval by the applicable lead and permitting agencies. Qualifications shall include prior approval by CDFW and USFWS as an Authorized Desert Tortoise Biologist and/or at least two years of experience on trend plots or transect surveys, conducting surveys for desert tortoise, or other research or field work on desert tortoise. Attendance at a training course endorsed by CDFW and USFWS (e.g., Desert Tortoise Council tortoise training workshop) is required. The qualified desert tortoise biologist(s) shall be responsible for overseeing compliance with desert tortoise protective measures, conducting pre-construction surveys for all work areas, monitoring for evidence of tortoises in construction areas, checking under vehicles and equipment, inspecting excavations and other potential entrapments, and ensuring worker compliance with all desert tortoise protection measures. Any incident that is considered by the qualified desert tortoise	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		biologist(s) to be in noncompliance with desert tortoise protective measures shall be documented. The qualified desert tortoise biologist(s) shall have the authority to halt any Project activity that is in violation of desert tortoise protective measures or that may result in take of a desert tortoise. The following incidents shall require immediate cessation of any Project activities: (1) location of a desert tortoise within 100 feet (30 m) of an active work area; (2) imminent threat of injury or death to a desert tortoise; (3) unauthorized handling of a desert tortoise, regardless of intent; and (4) operation of construction equipment or vehicles outside authorized work areas. Work activities may resume once the DB or qualified desert tortoise biologist(s) determines there is no threat to the desert tortoise and/or the tortoise has walked more than 100 feet (30 m) away from the work area. The Applicant shall be responsible for implementing the following requirements, under direction by the qualified desert tortoise biologist(s) where appropriate. ■ Worker Training. The Worker Environmental Awareness Program described in MM BIO-2 shall incorporate desert tortoise specific training. ■ Exclusion Fencing. Prior to construction of the Solar Site, it shall be fully enclosed by temporary, or permanent desert tortoise exclusion fencing. All exclusion fencing shall adhere to USFWS design guidelines. To the extent feasible and permissible by County flood control design guidelines, permanent exclusion fence shall be integrated with the site security fence for maximum durability. The Applicant may choose to install temporary desert tortoise exclusion fencing along the Linear Facility Routes, within the approved right-of-way, to be removed after completion of construction. The qualified desert tortoise biologist(s) shall monitor the	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		installation of all fence. Once installed, exclusion fencing shall be inspected at least monthly until construction completion and following all rain events, and corrective action taken if fence maintenance is needed. Exclusion fencing shall incorporate the installation of tortoise guards, or cattle guards, and/or gates at each road entry point. Gates shall always remain closed, 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 if a qualified desert tortoise biologist is present to monitor potential tortoise activity. ■ Pre-construction Survey. Pre-construction surveys shall be performed prior to ground disturbance to ensure no desert tortoises are present within the direct disturbance area. Pre-construction surveys shall be conducted in unfenced Project areas no more than 7 days prior to ground disturbance. Clearance surveys shall also be conducted after the Solar Site has been fully enclosed by temporary, or permanent desert tortoise exclusion fencing. ■ Avoidance. Any potentially occupied burrows shall be avoided until monitoring or field observations (e.g., with a motion-activated camera or fiber-optic mounted video camera) determines absence. If a live tortoise or an occupied tortoise burrow is identified in the work area, all Projects activities that may result in take shall cease. The tortoise shall be allowed to leave on its own accord without handling or harassment.	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		■ Unfenced Work Areas. If a tortoise is observed on or near the road accessing a work area, vehicles shall stop to allow the tortoise to move off the road on its own. The ground beneath vehicles parked outside of cleared areas within desert tortoise exclusion fencing shall be inspected immediately prior to the vehicle being moved. If a tortoise is found beneath a vehicle, the vehicle shall not be moved until the desert tortoise leaves of its own accord. Any work conducted in an area that is not fully enclosed by exclusion fencing must be monitored by a qualified desert tortoise biologist who shall stop work if a tortoise enters the work area. Work activities shall only proceed when the tortoise has moved away of its own accord and there is no threat of injury or death. Work sites with potential hazards to desert tortoise (e.g., auger holes, steep-sided depressions) shall be enclosed by temporary exclusion fence and not left open overnight. ■ Dead or Injured Tortoises. If a dead or injured desert tortoise is found within the Project area, the Applicant or Designated Biologist shall notify by phone and email USFWS, CDFW, and lead agencies within 24 hours of detection. 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, possible cause of death or injury, if known, and other pertinent information. **MM BIO-12 Raven Management**. The Applicant shall provide funding to the Renewable Energy Action Team (REAT) Account held by the National Fish and Wildlife Foundation (NFWF) to support the USFWS Regional Raven Management Program. The one-time fee shall be $105 per acre of direct impacts, which is	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		expected to total $117,915 for direct impacts to 1,123 acres. The actual fee would be determined based upon final calculation of impacted acreage. The Applicant shall also implement the following requirements, under direction by the Designated Biologist where appropriate: ■ The Worker Environmental Awareness Program described in MM BIO-2 shall incorporate discussion of ravens and responsibilities to control subsidies. ■ Reduce raven food sources by managing waste. Trash and food items shall always be contained in closed containers. ■ Reduce raven food sources by managing surface disturbance and dead wildlife. The Designated Biologist or Biological Monitor(s) shall to the extent authorized relocate wildlife from harm's way during ground-disturbing activities to minimize incidental kill to the extent feasible. Vehicle traffic speeds shall adhere to posted limits and not exceed 15 mph on all unpaved roads. If dead wildlife remains and roadkill are found, they shall be collected and disposed of (e.g., buried, when possible). ■ Reduce water availability. Do not use excess water for fugitive dust control and correct standing water issues promptly. Water tanks shall be maintained in proper operating condition. Designated Biologist and Biological Monitors will monitor raven activity during construction. All raven sightings/encounters shall be documented in daily logs. ■ The Designated Biologist shall notify the BLM, CDFW, and USFWS of any active raven nests encountered within the Project area. Nests within 100 feet of active work areas will be monitored weekly to identify any evidence of predation on desert	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation

tortoises and results will be reported to the BLM, CDFW, and USFWS accordingly.

MM BIO-13 Compensation for Impacts to Native Vegetation. Table 1 provides an estimate of compensation acreages; however, final compensation shall be based upon final calculation of impacted acreage.

Table 1: Estimated Impacts to Native Vegetation and Habitat Compensation (Acres).

Natural Vegetation Community[1]	Estimated Total Disturbance (ac)[2]	Compensation Ratio	Compensation Acres (ac)
LFRs (BLM Land)			
Sonoran creosote bush scrub[3]	32.5	1:1	32.5
Ephemeral dry wash	2.6	1:1	2.6
Desert dry wash woodland	1.1	5:1	5.5
Solar Site (Private Land)			
Disturbed Sonoran creosote bush scrub	0.4	0.5:1	0.2
Disturbed ephemeral dry wash	31.6	0.5:1	15.8
Disturbed desert dry	6.7	1.5:1	10.1

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation

wash woodland				

[1] Nonnative vegetation types have been excluded (i.e., non-native riparian, fallow agriculture, and developed/disturbed)
[2] Actual disturbance acreage within LFRs will be less; entire ROW will not be disturbed.
[3] No impacts to desert tortoise critical habitat or desert pavement.

- Summary of Compensatory Mitigation:
  - Total compensation acreage: 66.7 ac
    - Sonoran creosote bush scrub: 32.7 ac
    - Unvegetated ephemeral wash: 18.4 ac
    - Desert dry wash woodland acreage: 15.6 ac
      - Linear Facility Routes (BLM-Administered Lands). Habitat compensation ratios on BLM-administered lands shall be subject to the DRECP and be consistent with Table 18 of the DRECP LUPA, including the 5:1 ratio for desert dry wash woodland. The acreages and ratios shall be based upon final calculation of impacted acreage.
      - Solar Site (Private Lands). Habitat compensation ratios for disturbance on private lands are not subject to the DRECP. No compensation would be required for impacts to anthropogenic land use or fallow agriculture. The compensation acreage shall be based upon final calculation of impacted acreage. Compensation shall be provided for impacts to the following resources, at the specified ratios (acres acquired and preserved to acres impacted):
  - Disturbed Desert dry wash woodland: 1.5:1
  - Disturbed Ephemeral Wash: 0.5:1

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		■ The Applicant shall provide funding or bonding for the acquisition and conservation of compensation lands. Conservation instruments, associated documentation, and/or securities shall be submitted to the applicable agencies for review and approval, prior to initiating ground disturbance, pursuant to the requirements of permits and authorizations issued by lead, responsible, and permitting agencies.	
Threshold C: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U. S. Wildlife Service?	Less than Significant with Mitigation Incorporated	**MM BIO-1 Biological Monitoring.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-2 Worker Environmental Awareness Program (WEAP).** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-3 Minimization of Impacts to Native Vegetation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-4 Minimization of Impacts to Wildlife.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-5 Integrated Weed Management Plan.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO- 6 Vegetation Resources Management.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-7 Special-Status Plant Species Mitigation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-8 Minimization of Impacts to Birds and Bats.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-9 Desert Kit Fox and American Badger Relocation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-10 Stream Protection and Compensation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-11 Desert Tortoise Protection.** See Section 3.5 Biological Resources, Threshold B above.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		MM BIO-12 Raven Management. See Section 3.5 Biological Resources, Threshold B above.	
Threshold D: Would the project 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 with Mitigation Incorporated	**MM BIO-1 Biological Monitoring.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-2 Worker Environmental Awareness Program (WEAP).** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-3 Minimization of Impacts to Native Vegetation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-4 Minimization of Impacts to Wildlife.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-5 Integrated Weed Management Plan.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO- 6 Vegetation Resources Management.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-7 Special-Status Plant Species Mitigation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-8 Minimization of Impacts to Birds and Bats.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-9 Desert Kit Fox and American Badger Relocation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-10 Stream Protection and Compensation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-11 Desert Tortoise Protection.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-12 Raven Management.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-13 Compensation for Impacts to Native Vegetation.** See Section 3.5 Biological Resources, Threshold B above.	Less than Significant
Threshold E: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural	Less than Significant with Mitigation Incorporated	**MM BIO-1 Biological Monitoring.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-2 Worker Environmental Awareness Program (WEAP).** See Section 3.5 Biological Resources, Threshold B above.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U. S. Fish and Wildlife Service?		**MM BIO-3 Minimization of Impacts to Native Vegetation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-4 Minimization of Impacts to Wildlife.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-5 Integrated Weed Management Plan.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-6 Vegetation Resources Management.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-7 Special-Status Plant Species Mitigation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-10 Stream Protection and Compensation**. See Section 3.5 Biological Resources, Threshold B above. **MM BIO-13 Compensation for Impacts to Native Vegetation.** See Section 3.5 Biological Resources, Threshold B above.	
Threshold F: Would the project have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Less than Significant with Mitigation Incorporated	**MM BIO-1 Biological Monitoring.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-2 Worker Environmental Awareness Program (WEAP).** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-3 Minimization of Impacts to Native Vegetation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-4 Minimization of Impacts to Wildlife.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-5 Integrated Weed Management Plan.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-6 Vegetation Resources Management.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-7 Special-Status Plant Species Mitigation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-10 Stream Protection and Compensation.** See Section 3.5 Biological Resources, Threshold B above.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		MM BIO-13 Compensation for Impacts to Native Vegetation. See Section 3.5 Biological Resources, Threshold B above.	
Threshold G: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less than Significant with Mitigation Incorporated	**MM BIO-1 Biological Monitoring.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-2 Worker Environmental Awareness Program (WEAP).** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-3 Minimization of Impacts to Native Vegetation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-4 Minimization of Impacts to Wildlife.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-5 Integrated Weed Management.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO- 6 Vegetation Resources Management.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-7 Special-Status Plant Species Mitigation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-8 Minimization to Impacts to Birds and Bats.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-9 Desert Kit Fox and American Badger Protection.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-10 Stream Protection and Compensation.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-11 Desert Tortoise Protection.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-12 Raven Management.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-13 Compensation for Impacts to Native Vegetation.** See Section 3.5 Biological Resources, Threshold B above.	Less than Significant
Cumulative Impacts	Less than Significant with Mitigation Incorporated	MM BIO-1 through MM BIO-13 mentioned above.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
3.6 Cultural Resources			
Threshold A: Would the project alter or destroy a historic site?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold B: Would the project cause a substantial adverse change in the significance of a historical resource, pursuant to California Code of Regulations, Section 15064.5?	Less than Significant with Mitigation Incorporated	**MM CUL-1 Project Archaeologist**. Prior to issuance of grading permits: The applicant/developer shall provide evidence to the County of Riverside Planning Department that a County certified professional archaeologist (Project Archaeologist) has been contracted to implement a Cultural Resource Monitoring Program (CRMP). A Cultural Resource Monitoring Plan shall be developed that addresses the details of all activities and provides procedures that must be followed in order to reduce the impacts to cultural and historic resources to a level that is less than significant as well as address potential impacts to undiscovered buried archaeological resources associated with this project. A fully executed copy of the contract and a wet-signed copy of the Monitoring Plan shall be provided to the County Archaeologist to ensure compliance with this condition of approval. Working directly under the Project Archaeologist, an adequate number of qualified Archaeological Monitors shall be present to ensure that all earth moving activities are observed and shall be on-site during all grading activities for areas to be monitored including off-site improvements. Inspections will vary based on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features. The frequency and location of inspections will be determined by the Project Archaeologist. **MM CUL-2 Develop and Implement Cultural Resources Environmental Awareness Training.** Prior to issuance of a Notice to Proceed by the County and for the duration of ground disturbance (as defined in MM CUL-4), the Applicant shall provide Worker Environmental Awareness Program (WEAP) training to all workers prior to beginning work at the Project site. The training shall be prepared by the Cultural Resources Specialist (CRS), may be conducted by any member of the archaeological team, and	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		may be presented in the form of an annotated and narrated digital slide show. Tribal representatives will be given the opportunity to participate in the WEAP training. The CRS shall be available (by telephone or in person) to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended, but must be resumed if ground disturbance resumes. Training shall include the following: ■ A discussion of applicable laws and penalties under the law ■ Samples or visuals of artifacts that might be found in the Project vicinity ■ A brief review of the cultural sensitivity of the Project and the surrounding area. ■ A discussion of what such artifacts may look like when partially buried, or wholly buried and then freshly exposed. ■ A discussion of what prehistoric and historical archaeological deposits look like at the surface and when exposed during construction, and the range of variation in the appearance of such deposits. ■ Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery and shall contact their supervisor and the CRS or supervisory cultural resource field staff, and that redirection of work would be determined by the construction supervisor and the CRS. ■ Instruction that the CRS, alternate CRS, and supervisory cultural resource field staff have the authority to halt ground disturbance in the area of a discovery to an extent sufficient to ensure that the resource is protected from further impacts, as determined by the CRS.	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		■ An informational brochure that identifies reporting procedures in the event of a discovery ■ An acknowledgment form signed by each worker indicating that they have received the training. ■ A sticker that shall be placed on hard hats indicating that WEAP training has been completed. This is a mandatory training, and all construction personnel must attend prior to beginning work on the Project site. A copy of the sign-in sheet shall be kept ensuring compliance with this measure. No ground disturbance shall occur prior to implementation of the WEAP training unless such activities are specifically approved by the County. **MM CUL-3 Cultural Resources Monitoring and Treatment Plan.** Prior to the start of construction, the Cultural Resources Specialist (CRS) shall develop a Cultural Resources Monitoring and Treatment Plan (CRMTP) that addresses the details of all activities and provides procedures that must be followed to reduce the potential impacts to undiscovered buried archaeological resources associated with the Project. The CRMTP shall describe a program for avoiding and monitoring undiscovered National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) eligible cultural resources that can be avoided during Project construction. The CRMTP may require that protective fencing or other markers, at the discretion of the County, be erected and maintained to protect these resources from inadvertent adverse effects during construction. The CRMTP shall also include maps and narrative discussion of areas considered to be of high sensitivity for discovery of buried archaeological resources, if any. The CRMTP shall detail provisions for monitoring construction activities in these high-sensitivity areas. It shall also detail the methods, consultation procedures, and timelines for addressing all post-review discoveries.	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Pursuant to 14 C.C.R 15126.4(b), the CRMTP shall specify that preservation in place is the preferred method of mitigating impacts in the event of an unanticipated discovery of an archaeological site determined to be a historical resource. Potential means of preservation in place include but are not limited to: 1. Planning construction to avoid the archaeological site 2. Deeding the archaeological site to a permanent conservation easement 3. Capping or covering the archaeological site with a layer of chemically stable soil before building facilities on it; or 4. Incorporating the site within parks, green space, or other open space. When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken, as further specified below. The CRMTP shall identify person(s) expected to perform any monitoring tasks, their responsibilities, and the reporting relationships between Project construction management and the mitigation and monitoring team. It shall also specify monitoring reporting and what forms/documentation needs to be completed daily during monitoring. The CRS shall manage all monitoring, mitigation, curation, and reporting activities under the CRMTP. The Applicant shall ensure that the CRS makes recommendations regarding the eligibility for listing in the NRHP and CRHR of any cultural resources that are newly discovered or that may be affected in an unanticipated manner. The CRMTP shall address the authority to halt ground disturbance during construction. If a cultural resource over 50 years of age is	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		found, or impacts to such a resource can be anticipated, ground disturbance shall be halted or redirected in the immediate vicinity of the discovery sufficient to ensure that the resource is protected from further impacts. Monitoring and reporting shall continue during the Project's ground-disturbing activities elsewhere. Additional procedures regarding halting ground disturbance to address a post-review discovery or unanticipated effects shall be described in the CRMTP. The CRMTP shall include, but not be limited to, the following elements, and shall be consistent with all other mitigation measures contained in this document: ■ Preparation and implementation of a data recovery plan to be used to guide the data recovery and disposition of any historical or Tribal Cultural Resource (as defined under the California Environmental Quality Act) that may be encountered during construction and that cannot be avoided or preserved in place. The data recovery plan shall include, minimally, a regional cultural setting, appropriate regional research questions, field and laboratory methods for the data recovery effort, and analysis and reporting requirements. The data recovery plan shall include treatment measures that focus on recovering information related to tribal values as they are conveyed through archaeological data. The treatment measures shall be developed through consultation among traditionally culturally affiliated tribes and the County. Treatment measures may include detailed resource documentation, preparation of interpretative or educational materials, reburial of artifacts that convey tribal values, or other measures identified in coordination with the tribes and the landowner.	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Following implementation of data recovery and other treatment protocols, a report documenting the methods and results of the data recovery and treatment program shall be prepared by a Secretary of the Interior-qualified archaeologist and shall be submitted to the County for review and approval. **MM CUL-4 Archaeological Monitoring**. A qualified lead archaeological monitor that meets the Secretary of the Interior's Professional Qualifications Standards (as defined in Title 36 Code of Federal Regulations Part 61), shall be present for initial grading activities in undisturbed soil. If additional archaeological monitors are needed, they do not need to have the same qualifications, but may work under the supervision of the lead archaeological monitor; in such cases the lead archaeological monitor must be on site. Daily monitoring forms will be completed by the archaeological monitor(s) and the CRS will be responsible for retaining, editing, and compiling them. Agencies will be provided with a compilation of the daily reports monthly. The lead archaeological monitor will have the authority to increase or decrease the monitoring effort should the monitoring results indicate that a change is warranted. **MM CUL-5 Unanticipated Resources.** The developer/permit holder or any successor in interest shall comply with the following for the life of this permit. If during ground disturbance activities, unanticipated cultural resources* are discovered, the following procedures shall be followed: All ground disturbance activities within 100 feet of the discovered cultural resource shall be halted and the applicant shall call the County Archaeologist immediately upon discovery of the cultural resource. A meeting shall be convened between the developer, the project archaeologist**, the Native American tribal representative (or other appropriate ethnic/cultural group representative), and the County Archaeologist to discuss the significance of the find. At the meeting with the aforementioned parties, a decision is to be made, with the concurrence of the	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		County Archaeologist, as to the appropriate treatment (documentation, recovery, avoidance, etc.) for the cultural resource. Resource evaluations shall be limited to nondestructive analysis. Further ground disturbance shall not resume within the area of the discovery until the appropriate treatment has been accomplished. * A cultural resource site is defined, for this condition, as being a feature and/or three or more artifacts in close association with each other. ** If not already employed by the project developer, a County approved archaeologist shall be employed by the project developer to assess the significance of the cultural resource, attend the meeting described above, and continue monitoring of all future site grading activities as necessary. **MM CUL-6 Human Remains.** If human remains are found on this site, the developer/permit holder or any successor in interest shall comply with State Health and Safety Code Section 7050.5. **MM CUL-7 Phase IV Monitoring Report.** Prior to Grading Permit Final Inspection, a Phase IV Cultural Resources Monitoring Report shall be submitted that complies with the Riverside County Planning Department's requirements for such reports for all ground disturbing activities associated with this grading permit. The report shall follow the County of Riverside Planning Department Cultural Resources (Archaeological) Investigations Standard Scopes of Work posted on the TLMA website. The report shall include results of any feature relocation or residue analysis required as well as evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting and evidence that any artifacts have been treated in accordance to procedures stipulated in the Cultural Resources Management Plan.	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Threshold C: Would the project alter or destroy an archaeological site?	Less than Significant with Mitigation Incorporated	See **MM CUL-1** through **MM CUL-7** above.	Less than Significant
Threshold D: Would the project cause a substantial adverse change in the significance of an archaeological resource, pursuant to California Code of Regulations, Section 15064.5?	Less than Significant with Mitigation Incorporated	See **MM CUL-1** through **MM CUL-7** above.	Less than Significant
Threshold E: Would the project disturb any human remains, including those interred outside of dedicated cemeteries?	Less than Significant with Mitigation Incorporated	**MM CUL-6 Human Remains.** See Section 3.6 Cultural Resources, Threshold B above.	
Cumulative Impacts	Cumulatively Considerable	See **MM CUL-1** through **MM CUL-7** mentioned above.	Cumulatively Considerable
3.7 Energy			
Threshold A: Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold B: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Less than Significant	No mitigation would be required.	Less than Significant
Cumulative Impacts	Less than Significant	No mitigation would be required.	Less than Significant
3.8 Geology and Soils			
Threshold A: Be subject to rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map	Less than Significant	No mitigation would be required.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
issued by the State Geologist for the area or based on other substantial evidence of a known fault?			
Threshold B: Be subject to seismic-related ground failure, including liquefaction?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold C: Be subject to strong seismic ground shaking?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold D: 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, collapse, or rockfall hazards?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold E: 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 ground subsidence?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold F: Be subject to geologic hazards, such as seiche, mudflow, or volcanic hazard?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold G: Change topography or ground surface relief features?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold H: Create cut or fill slopes greater than 2:1 or higher than 10 feet?	No Impact	No mitigation would be required.	No Impact
Threshold I: Result in grading that affects or negates subsurface sewage disposal systems?	Less than Significant	No mitigation would be required.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Threshold J: Result in substantial soil erosion or the loss of topsoil?	Less than Significant with Mitigation Incorporated	**MM AQ-2 Fugitive Dust Control Plan.** See Section 3.2 Aesthetics, Threshold A above. **MM BIO-10 Stream Protection and Compensation.** See Section 3.5 Biological Resources, Threshold B above.	Less than Significant
Threshold K: Be located on expansive soil, as defined in Section 1803.5.3 of the California Building Code (2022), creating substantial direct or indirect risks to life or property?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold L: Have soils incapable of adequately supporting use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold M: Be impacted by or result in an increase in wind erosion and blow sand, either on or off site?	Less than Significant	No mitigation would be required.	Less than Significant
Cumulative Impacts	Less than Significant with Mitigation Incorporated	**MM AQ-2** and **MM BIO-10** mentioned above.	Less than Significant
3.9 Greenhouse Gas Emissions			
Threshold A: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold B: Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the	Less than Significant	No mitigation would be required.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
emissions of greenhouse gases?			
Cumulative Impacts	Less than Significant	No mitigation would be required.	Less than Significant
3.10 Hazards and Hazardous Materials			
Threshold A: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold B: Would the project 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 with Mitigation Incorporated	**MM HAZ-1 Worker Environmental Awareness Program.** A Worker Environmental Awareness Program shall be prepared, and all construction crews and contractors shall be briefed on the plan prior to starting work on the Project. The plan shall address health and safety issues associated with normal and unusual (emergency) conditions. The program shall include, but not be limited, to the following information and guidance: ■ Environmental health and safety protocol (including, but not limited to, hazards of valley fever, including the symptoms, proper work procedures, when and how to use personal protective equipment, and informing supervisors of suspected symptoms of work-related valley fever) ■ An emergency response plan ■ Environmental awareness training, which shall include environmental, cultural, health, and safety training ■ Noise/ear protection protocol ■ First aid training ■ Fire protection and extinguisher maintenance, guidance, and documentation	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		■ Disposal of hazardous materials and waste guidance in accordance with local, state, and federal regulations	
Threshold C: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less than Significant with Mitigation Incorporated	**MM TRAF-1 Construction Traffic Management Plan.** Prior to initiation of construction activities, a Construction Traffic Management Plan will be prepared by the contractor and filed with the County. Potential traffic management measures may include: ■ Warning signage to meet County and California Department of Transportation requirements for driver awareness of construction activity in the vicinity. ■ Staggering work shifts to reduce peak periods of congestion. ■ Limiting time for heavy truck deliveries. ■ Using flaggers at key locations to alert motorists to slow-moving trucks. ■ Providing an information packet for affected residents to bring awareness to the Project activities and measures to minimize impacts. ■ Informing emergency service providers of construction traffic schedule.	Less than Significant
Threshold D: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter (1/4) mile of an existing or proposed school?	No Impact	No mitigation would be required.	No Impact.
Threshold E: Would the project be located on a site which is included on a list of hazardous materials sites compiled	Less than Significant with Mitigation Incorporated	**MM HAZ-2 UXO Identification, Training, and Reporting Plan.** Where ground disturbance work is involved, the construction contractor shall have a representative that is OSHA HAZWOPER-trained in accordance with standard 29CFR1910.120 on-call	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?		during construction activities to evaluate potential UXO findings. A UXO Identification, Training, and Reporting Plan will be developed and will be incorporated in the WEAP training. The UXO Identification, Training, and Reporting Plan will properly train all site workers in the recognition, avoidance, and reporting of military waste debris and ordnance. The Applicant shall submit the plan, incorporated in the WEAP training, to the County and BLM for review and approval prior to the start of construction. The plan shall contain, at a minimum, the following: ■ A description of the training program outline and materials, and the qualifications of the trainers; ■ Identification of available trained experts that will respond to notification of discovery of any ordnance (unexploded or not); and ■ Work plan to recover and remove discovered ordnance.	
Threshold F: Would the project result in an inconsistency with an Airport Master Plan?	No Impact	No mitigation would be required.	No Impact
Threshold G: Would the project require review by the Airport Land Use Commission?	No Impact	No mitigation would be required.	No Impact
Threshold H: For a project located within an airport land use plan or, where such a plan has not been adopted, within two (2) miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	No Impact	No mitigation would be required.	No Impact
Threshold I: For a project within the vicinity of a private airstrip, or heliport, would the project result in a safety hazard	No Impact	No mitigation would be required.	No Impact

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
for people residing or working in the project area?			
Cumulative Impacts	Less than Significant with Mitigation Incorporated	**MM HAZ-1, MM HAZ-2, and MM TRAF-1** mentioned above.	Less than Significant
3.11 Hydrology and Water Quality			
Threshold A: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold B: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Less than Significant with Mitigation Incorporated	**MM WAT-1 Groundwater Monitoring, Reporting and Mitigation Plan.** Prior to the Project's use of water from any well that extracts groundwater from the Chuckwalla Valley Groundwater Basin, the Applicant shall prepare and implement a Groundwater Monitoring, Reporting, and Mitigation Plan (GMRMP) for the Project. The GMRMP shall be prepared by a certified hydrogeologist registered in the State of California and submitted by the Applicant to the County for review and approval prior to the start of Project construction. The GMRMP shall provide detailed methodology for monitoring groundwater levels and water quality in the Project production well(s) and closest accessible private well(s). Monitoring shall be performed prior to construction to establish pre-construction groundwater levels that can be used as a baseline against which later measurements can be compared, and to establish provisional significance thresholds that shall be used to determine the need for additional monitoring, investigation, and/or mitigation. Monitoring of groundwater levels and water quality shall be conducted on a quarterly basis during Project construction and a semi-annual basis during Project operations and maintenance for at least the first 5 years of the Project (including the construction period). All Project production wells shall be metered, and total	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		monthly and annual usage in gallons recorded for the life of the Project. Monitoring reports shall be prepared and submitted to the County for review and comment following each monitoring event. The reports shall include at a minimum the following information: ■ Tabulated groundwater level, quality, and production data ■ Total monthly water use in gallons and acre-feet ■ Hydrographs that show groundwater level trends ■ Trend analysis of water quality data ■ Comparison of monitoring results to baseline conditions ■ Identification of any exceedance of provisional significance thresholds If groundwater monitoring results indicate that Project-related pumping has resulted in a static groundwater level decline of 5 feet or more below the baseline trend, determined by the past 5 years of static groundwater level data, at any of the nearby private monitoring wells, the Project Applicant shall consult with the County to determine what remedial activities are needed, which could include: ■ Cessation or reduction of pumping until groundwater levels recover to within 5 feet from the baseline trend ■ Compensation for whatever additional equipment is necessary to lower nearby well pumps to levels that can adequately continue pumping ■ Compensation to repair or replace wells found to be damaged or inoperable due to lowered groundwater levels ■ Compensation for increased energy cost due to Project-related groundwater level drawdown in wells	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		If groundwater level declines are occurring, pumping by other local users will be evaluated in the monitoring reports and, if possible, differentiated from Project-related pumping. This analysis could include comparing changes in the timing and amounts of groundwater level fluctuations to pre-Project baseline data, production at other locations, and seasonal changes.	
Threshold C(i): Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?	Less than Significant with Mitigation Incorporated	See **MM BIO-10** in Section 3.5 Biological Resources, Threshold E above.	Less than Significant
Threshold C(ii): Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold C(iii): Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through	Less than Significant	No mitigation would be required.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?			
Threshold C(iv): Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold D: In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold E: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less than Significant with Mitigation Incorporated	**MM WAT-1 Groundwater Monitoring, Reporting and Mitigation Plan.** See Section 3.11 Hydrology and Water Quality, Threshold B above.	Less than Significant
Cumulative Impacts	Less than Significant with Mitigation Incorporated	See **MM WAT-1** and **MM BIO-10** above.	Less than Significant
3.12 Land Use and Planning			
Threshold A: Would the project physically divide and established community?	No Impact	No mitigation would be required.	No Impact

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Threshold B: Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Less than Significant	No mitigation would be required.	Less than Significant
Cumulative Impacts	Less than Significant	No mitigation would be required	Less than Significant
3.13 Mineral Resources			
Threshold A: Would the Project result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold B: Would the Project 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?	No Impact	No mitigation would be required.	No Impact
Threshold C: Would the Project potentially expose people or property to hazards from proposed, existing, or abandoned quarries or mines?	No Impact	No mitigation would be required.	No Impact
Cumulative Impacts	Less than Significant	No mitigation would be required.	Less than Significant
3.14 Noise			
Threshold A: For a project located within an airport land use plan or, where such a plan has not been adopted, within	No Impact	No mitigation would be required.	No Impact

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
two (2) miles of a public airport or public use airport would the project expose people residing or working in the project area to excessive noise levels?			
Threshold B: For a project located within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold C: Would the project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies?	Less than Significant4	**MM N-1 Construction Noise Equipment Controls** ■ The use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only. ■ Construction equipment will be muffled per manufacturer's specifications. Electrically powered equipment will be used instead of pneumatic- or internal combustion–powered equipment, where feasible. ■ All stationary construction equipment will be placed in a manner so that emitted noise is directed away or blocked from sensitive receptors nearest the Project site where possible. **MM N-2 Public Notification Process.** At least 15 days prior to the start of ground disturbance, the Project Applicant shall notify all residents within 1 mile of the Project site and the Linear Facility Routes, by mail or by other effective means, of the commencement of Project construction. At the same time, the	Less than Significant

[4] The Project would not result in a significant temporary or permanent increase in ambient noise levels, groundborne vibration, or groundborne noise; the Project would also not have a substantial contribution to any cumulatively significant noise, groundborne vibration, or groundborne noise impacts; therefore, no mitigation is required. MM N-1 through MM N-3 would further reduce potential non-significant impacts associated with noise that could result from the construction, operation, maintenance, and decommissioning of the Project.

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Project Applicant shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the Project. If the telephone is not staffed 24 hours a day, the Project Applicant shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the Project site during construction where it is visible to passersby. This telephone number shall be maintained until the Project has been operational for at least 1 year. **MM N-3 Noise Complaint Process.** Throughout the construction and operation of the Project, the Project Applicant shall document, investigate, evaluate, and attempt to resolve all Project-related noise complaints.	
Threshold D: Would the project result in the generation of excessive ground-borne vibration or ground-borne noise levels?	Less than Significant5	See **MM N-1** through **MM N-3** above.	Less than Significant
Cumulative Impacts	Less than Significant6	See **MM N-1** through **MM N-3** above.	Less than Significant

[5] The Project would not result in a significant temporary or permanent increase in ambient noise levels, groundborne vibration, or groundborne noise; the Project would also not have a substantial contribution to any cumulatively significant noise, groundborne vibration, or groundborne noise impacts; therefore, no mitigation is required. MM N-1 through MM N-3 would further reduce potential non-significant impacts associated with noise that could result from the construction, operation, maintenance, and decommissioning of the Project.

[6] The Project would not result in a significant temporary or permanent increase in ambient noise levels, groundborne vibration, or groundborne noise; the Project would also not have a substantial contribution to any cumulatively significant noise, groundborne vibration, or groundborne noise impacts; therefore, no mitigation is required. MM N-1 through MM N-3 would further reduce potential non-significant impacts associated with noise that could result from the construction, operation, maintenance, and decommissioning of the Project.

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
3.15 Paleontological Resources			
Threshold A: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Less than Significant with Mitigation Incorporated	**MM PALEO-1 Paleontological Resources Impact Mitigation Program**. Prior to commencement of any grading activity on site, the Applicant shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (2010) guidelines. The paleontologist shall prepare a Paleontological Resource Impact Mitigation Program for the Project. The Paleontological Resource Impact Mitigation Program shall be consistent with the Society of Vertebrate Paleontology (2010) guidelines and should outline requirements for pre-construction meeting attendance and worker environmental awareness training where monitoring is required within the Project site based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microvertebrate fossils), reporting, and collections management. The qualified paleontologist shall attend the pre-construction meeting and a qualified paleontological monitor shall be on site during all rough grading and other significant ground-disturbing activities (including augering) in previously undisturbed, fine-grained Quaternary alluvial deposits of Pleistocene age. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the qualified paleontological monitor will temporarily halt and/or divert ground disturbing activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot-radius buffer. Once documentation and collection of the find is completed, the qualified paleontological monitor will remove the rope and allow grading to recommence in the area of the find. Paleontological specimens recovered from the Project site, if any, will be processed in the laboratory. Processing will include removal of any matrix so that the fossil can be identified to the lowest possible taxonomic level. The specimens will then be identified and cataloged into a paleontological database.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Specimens will need to be prepared for curation prior to repository accessioning. The qualified paleontologist will produce a Paleontological Monitoring Report describing the paleontological discoveries in their stratigraphic and geographic context and detailing the procedures for preparing, curating, and accessioning the paleontological collection into a suitable repository. The report of monitoring results shall be submitted to the lead agency. If no significant paleontological resources are recovered during Project ground-disturbing activities, a final Monitoring Memorandum shall be produced and submitted to the lead agency. Completion of the aforementioned tasks will finalize the paleontological mitigation process.	
Cumulative Impacts	Less than Significant with Mitigation Incorporated	See **MM PALEO-1** above.	Less than Significant
3.16 Population and Housing			
Threshold A: Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold B: Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact	No mitigation would be required.	No Impact
Threshold C: Would the project create a demand for additional housing, particularly housing affordable to households	Less than Significant	No mitigation would be required.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
earning 80% or less of the County's median income?			
Cumulative Impacts	Less than Significant	No mitigation would be required.	Less than Significant
3.17 Public Services			
Threshold A: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or 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 following public services: fire protection and services, police protection and sheriff services, schools, parks, libraries, and health services?	Less than Significant with Mitigation Incorporated (Fire Protection and Services, and Police Protection and Sheriff Services) Less than Significant (Schools, Parks, Libraries, and Health Services)	**MM FIRE-5 Fire Prevention and Safety Plan.** The Applicant shall prepare and implement a Fire Prevention and Safety Plan to ensure the safety of workers and the public during construction, operation and maintenance, and future decommissioning activities for the Project. The owner must provide the Fire Prevention and Safety Plan to the Bureau of Land Management (BLM) for review and approval and to the Riverside County Fire Department (RCFD) for review and comment before construction. The Fire Prevention and Safety Plan shall include, but not be limited to, the following elements: ■ Procedures shall be in place for minimizing potential ignition, including, but not limited to, vegetation clearing, parking requirements/restrictions, idling restrictions, smoking restrictions, proper use of gas-powered equipment, and hot work restrictions. ■ Work restrictions shall be in place during Red Flag Warnings and High to Extreme Fire Danger days. ■ All internal combustion engines used at the Project's site shall be equipped with spark arrestors. Spark arrestors shall be in good working order. ■ Light trucks and cars shall be used only on roads where the roadway is cleared of vegetation, have been cut, and initial fencing completed. Mufflers on all cars and light trucks shall be maintained in good working order. ■ Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		■ Equipment parking areas and small stationary engine sites shall be cleared of all flammable materials. ■ Smoking shall be prohibited in all vegetated areas and within 50 feet of combustible materials storage and shall be limited to paved areas or areas cleared of all vegetation. ■ Each construction site (if construction occurs simultaneously at various locations) shall be equipped with fire extinguishers and firefighting equipment sufficient to extinguish small fires. ■ The Applicant shall coordinate with BLM and RCFD to create a training component for emergency first responders to prepare for specialized emergency incidents that may occur at the Project's site. ■ All construction workers, plant personnel, and maintenance workers visiting the plant and/or transmission lines to perform maintenance activities shall receive training on fire prevention procedures, the proper use of firefighting equipment, and procedures to be followed in the event of a fire. Training records shall be maintained and be available for review by BLM and RCFD. Fire prevention procedures shall be included in the Project's Worker Environmental Awareness Training (Mitigation Measure BIO-2). ■ Vegetation near all solar panel arrays, ancillary equipment, and access roads shall be controlled through periodic cutting and spraying of weeds, in accordance with the Weed Management Plan. ■ BLM and RCFD shall be consulted during plan preparation and fire safety measures recommended by these agencies included in the plan.	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		■ The plan shall list fire prevention procedures and specific emergency response and evacuation measures that would be required to be followed during emergency situations. ■ All on-site employees shall participate in annual fire prevention and response training exercises with BLM and RCFD. ■ The plan shall list all applicable wildland fire management plans and policies established by state and local agencies and demonstrate how the Project shall comply with these requirements. ■ The Applicant shall designate an emergency services coordinator from among the full-time on-site employees who shall perform routine patrols of the site during the fire season equipped with a portable fire extinguisher and communications equipment. The Applicant shall notify BLM and RCFD of the name and contact information of the current emergency services coordinator in the event of any change. ■ Remote monitoring of all major electrical equipment (transformers and inverters) shall screen for unusual operating conditions. Higher than nominal temperatures, for example, can be compared with other operational factors to indicate the potential for overheating, which under certain conditions could precipitate a fire. Units could then be shut down or generation curtailed remotely until corrective actions are taken. ■ Fires ignited on site shall be immediately reported to BLM and RCFD.	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		■ The engineering, procurement, and construction contract(s) for the Project shall provide reference to or clearly state the requirements of this measure. **MM TRAF-1 Construction Traffic Management Plan**. See Section 3.10 Hazards and Hazardous Materials, Threshold C above.	
Cumulative Impacts	Less than Significant with Mitigation Incorporated	See **MM TRAF-1** and **MM FIRE-5** above.	Less than Significant
3.18 Recreation			
Threshold A: Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold B: Would the Project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold C: Would the Project be located within a Community Service Area (CSA) or recreation and park district with a Community Parks and Recreation Plan (Quimby fees)?	No Impact	No mitigation would be required.	No Impact
Threshold D: Would the Project include the construction or expansion of a trail system?	No Impact	No mitigation would be required.	No Impact
Cumulative Impacts	Less than Significant	No mitigation would be required.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
3.19 Transportation			
Threshold A: Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold B: Would the project conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold C: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Less than Significant with Mitigation Incorporated	**MM TRAF-1 Construction Traffic Management Plan.** See Section 3.10 Hazards and Hazardous Materials, Threshold C above.	Less than Significant
Threshold D: Would the project cause an effect upon, or a need for new or altered maintenance of roads?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold E: Would the project cause an effect upon circulation during the project's construction?	Less than Significant with Mitigation Incorporated	**MM TRAF-1 Construction Traffic Management Plan.** See Section 3.10 Hazards and Hazardous Materials, Threshold C above.	Less than Significant
Threshold F: Would the project result in inadequate emergency access or access to nearby uses?	Less than Significant with Mitigation Incorporated	**MM TRAF-1 Construction Traffic Management Plan**. See Section 3.10 Hazards and Hazardous Materials, Threshold C above.	Less than Significant
Cumulative Impacts	Less than Significant with Mitigation Incorporated	See **MM TRAF-1** above.	Less than Significant
3.20 Tribal Cultural Resources			
Threshold A(i): Would the project cause a substantial	Less than Significant with Mitigation Incorporated	**MM TCR-1 Native American Monitor.** Prior to the issuance of grading permits, the developer/permit applicant shall enter into	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: (i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or		an agreement with the consulting tribe(s) for a Native American Monitor. The Native American Monitor(s) shall be on-site during all initial ground disturbing activities and excavation of each portion of the project site including clearing, grubbing, tree removals, grading and trenching. In conjunction with the Archaeological Monitor(s), the Native American Monitor(s) shall have the authority to temporarily divert, redirect or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources. The developer/permit applicant shall submit a fully executed copy of the agreement to the County Archaeologist to ensure compliance with this condition of approval. Upon verification, the Archaeologist shall clear this condition. This agreement shall not modify any condition of approval or mitigation measure. **MM TCR-2 Artifact Disposition.** Prior to Grading Permit Final Inspection, the landowner(s) shall relinquish ownership of all cultural resources that are unearthed on the Project property during any ground-disturbing activities, including previous investigations and/or Phase III data recovery. Historic Resources- all historic archaeological materials recovered during the archaeological investigations (this includes collections made during an earlier project, such as testing of archaeological sites that took place years ago), shall be curated at the Western Science Center, a Riverside County curation facility that meets State Resources Department Office of Historic Preservation Guidelines for the Curation of Archaeological Resources ensuring access and use pursuant to the Guidelines. Prehistoric Resources - One of the following treatments shall be applied. a. Reburial of the resources on the Project property. The measures for reburial shall include, at least, the following: Measures to protect the reburial area from any future impacts. Reburial shall not occur until all	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		required cataloguing, analysis and studies have been completed on the cultural resources, with an exception that sacred items, burial goods and Native American human remains are excluded. Any reburial processes shall be culturally appropriate. Listing of contents and location of the reburial shall be included in the confidential Phase IV Report. The Phase IV Report shall be filed with the County under a confidential cover and not subject to a Public Records Request. b. If reburial is not agreed upon by the Consulting Tribes then the resources shall be curated at a culturally appropriate manner at the Western Science Center, a Riverside County curation facility that meets State Resources Department Office of Historic Preservation Guidelines for the Curation of Archaeological Resources ensuring access and use pursuant to the Guidelines. The collection and associated records shall be transferred, including title, and are to be accompanied by payment of the fees necessary for permanent curation. Evidence of curation in the form of a letter from the curation facility stating that subject archaeological materials have been received and that all fees have been paid, shall be provided by the landowner to the County. There shall be no destructive or invasive testing on sacred items, burial goods and Native American human remains. See **MM CUL-1** through **MM CUL-7** in Section 3.6 Cultural Resources, Threshold B above.	
Threshold A(ii): Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms	Less than Significant with Mitigation Incorporated	See **MM TCR-1** and **MM TCR-2** mentioned above. See **MM CUL-1** through **MM CUL-7** in Section 3.6 Cultural Resources, Threshold B above.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: (ii) A resource determined by the lead agency in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1., the lead agency shall consider the significance of the resource to a California Native American tribe?			
Cumulative Impacts	Cumulatively Considerable	See **MM TCR-1** and **MM TCR-2** mentioned above. See **MM CUL-1** through **MM CUL-7** in Section 3.6 Cultural Resources, Threshold B above.	Cumulatively Considerable
3.21 Utilities and Service Systems			
Threshold A: Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage systems, whereby the construction or relocation would cause significant environmental effects?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold B: Would the project have sufficient water supplies available to serve the project and reasonably foreseeable	Less than Signfiicant	No mitigation would be required.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
future development during normal, dry, and multiple dry years?			
Threshold C: Would the project require or result in the construction of new wastewater treatment facilities, including septic systems, or expansion of existing facilities, whereby the construction or relocation would cause significant environmental effects?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold D: Would the project result in a determination by the wastewater treatment provider that serves or may service the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	No Impact	No mitigation would be required.	No Impact
Threshold E: Would the project generate solid waste in excess of State or Local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Less than Significant	No mitigation would be required.	Less than Significant
Threshold F: Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid wastes including the CIWMP	Less than Signfiicant	No mitigation would be required.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
(County Integrated Waste Management Plan)?			
Threshold G: Would the project impact the following facilities requiring or resulting in the construction of new facilities or the expansion of existing facilities, whereby the construction or relocation would cause significant environmental effects?	Less than Significant (Communication Systems, Maintenance of Public Facilities, and Other Government Services) No Impact (Energy, Natural Gas, and Street Lighting)	No mitigation would be required.	Less than Significant (Communication Systems, Maintenance of Public Facilities, and Other Government Services) No Impact (Energy, Natural Gas, and Street Lighting)
Electricity?			
Natural Gas?			
Communication Systems?			
Street Lighting?			
Maintenance of public facilities, including roads?			
Cumulative Impacts	Less than Significant	No mitigation would be required.	Less than Significant
3.22 Wildfire			
Threshold A: Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?	Less than Significant with Mitigation Incorporated	**MM TRAF-1 Construction Traffic Management Plan**. See Section 3.10 Hazards and Hazardous Materials, Threshold C above. **MM FIRE-1 County Fire Department Technical Policy (TP) 15-002 Compliance.** The Applicant shall ensure that circulation and access for fire protection purposes within the site and at the entrance are provided, with roads not less than 20 feet consistent with County Fire Department Technical Policy TP 15-002. Compliance with the requirement shall be documented in the construction documents.	Less than Significant
Threshold B: Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose	Less than Signfiicant with Mitigation Incorporated	**MM FIRE-1 County Fire Department Technical Policy (TP) 15-002** Compliance. See Impact WF-1 above. **MM FIRE-2 Water Tank Installation**—Riverside County Fire Department Compliance. The Applicant shall install water tanks if	

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?		required by the Riverside County Fire Department (RCFD). The required volume of water for fire use shall be based on the County Fire Marshall's requirement following review of the Project plans. The RCFD-approved number of water tanks and volume shall be included in the construction documents. **MM FIRE-3 Maintenance Truck Equipment**. The Applicant shall ensure all maintenance trucks are equipped with a fire extinguisher or other firefighting equipment in accordance with state and federal regulations. Compliance with this measure shall be documented in monitoring logs provided to the California Department of Fish and Wildlife and Bureau of Land Management. **MM FIRE-4 Occupational Safety and Health Administration and California Code of Regulations Compliance.** The Applicant shall ensure that welding and all construction hot work abides by the appropriate Occupational Safety and Health Administration and California Code of Regulations standards (8 CCR 4846). Compliance with this measure shall be documented in monitoring logs provided to California Department of Fish and Wildlife and Bureau of Land Management. **MM FIRE-5 Fire Prevention and Safety Plan.** See Impact PS-1 above. **MM BIO-5 Integrated Weed Management Plan**. See Section 3.5 Biological Resources, Threshold B above. **MM BIO-6 Vegetation Resources Management**. See Section 3.5 Biological Resources, Threshold B above.	
Threshold C: Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in	Less than Significant with Mitigations Incorporated	**MM FIRE-1 County Fire Department Technical Policy (TP) 15-002 Compliance**. See Section 3.22 Wildfire, Threshold A above. **MM FIRE-3 Maintenance Truck Equipment.** See Section 3.22 Wildfire, Threshold B above.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
temporary or ongoing impacts to the environment?		**MM FIRE-4 Occupational Safety and Health Administration and California Code of Regulations Compliance.** See Section 3.22 Wildfire, Threshold B above. **MM FIRE-5 Fire Prevention and Safety Plan.** See Section 3.17 Public Services, Threshold A above. **MM BIO-2 Worker Environmental Awareness Program (WEAP).** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-5 Integrated Weed Management Plan.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-6 Vegetation Resources Management.** See Section 3.5 Biological Resources, Threshold B above.	
Threshold D: Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Less than Significant with Mitigation Incorporated	**MM BIO-5 Integrated Weed Management Plan.** See Section 3.5 Biological Resources, Threshold B above.	Less than Significant
Threshold E: Expose people or structures either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	Less than Significant with Mitigation Incorporated	**MM FIRE-1 County Fire Department Technical Policy (TP) 15-002 Compliance.** See Section 3.22 Wildfire, Threshold A above. **MM FIRE-2 Water Tank Installation.** See Section 3.22 Wildfire, Threshold B above. **MM FIRE-3 Maintenance Truck Equipment.** See Section 3.22 Wildfire, Threshold B above. **MM FIRE-4 Occupational Safety and Health Administration and California Code of Regulations Compliance.** See Section 3.22 Wildfire, Threshold B above. **MM FIRE-5 Fire Prevention and Safety Plan.** See Section 3.17 Public Services, Threshold A above. **MM BIO-2 Worker Environmental Awareness Program (WEAP).** See Section 3.5 Biological Resources, Threshold B above.	Less than Significant

Table ES-2. Summary of Project Impacts

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		MM BIO-5 Integrated Weed Management Plan. See Section 3.5 Biological Resources, Threshold B above. **MM BIO-6 Vegetation Resources Management.** See Section 3.5 Biological Resources, Threshold B above	
Cumulative Impacts	Less than Significant with Mitigation Incorporated	**MM FIRE-1 County Fire Department Technical Policy (TP) 15-002 Compliance.** See Section 3.22 Wildfire, Threshold A above. **MM FIRE-2 Water Tank Installation—Riverside County Fire Department Compliance.** See Section 3.22 Wildfire, Threshold B above. **MM FIRE-3 Maintenance Truck Equipment**. See Section 3.22 Wildfire, Threshold B above. **MM FIRE-4 Occupational Safety and Health Administration and California Code of Regulations Compliance**. See Section 3.22 Wildfire, Threshold B above. **MM FIRE-5 Fire Prevention and Safety Plan**. See Section 3.17 Public Services, Threshold A above. **MM BIO-2 Worker Environmental Awareness Program (WEAP).** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-5 Integrated Weed Management Plan.** See Section 3.5 Biological Resources, Threshold B above. **MM BIO-6 Vegetation Resources Management.** See Section 3.5 Biological Resources, Threshold B above.	Less than Significant

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 Sapphire Solar Project (Project). As the CEQA lead agency, the County is responsible for coordinating with the Project applicant, Sapphire Solar, LLC (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 environmental 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 to generate up to 117 megawatts (MW) of electricity from solar photovoltaic (PV) panels and up to 117 MW of battery energy storage system (BESS) on approximately 1,123 acres of private and public lands within Riverside County, California. The Project would require a Conditional Use Permit (CUP 220035) for construction, operation, and decommissioning. A Public Use Permit (PUP 220002) from the County would also be required for portions of the gen-tie line on County-owned lands. A Development Agreement (DA2200018) with the County, per Board of Supervisors Policy B-29, would also be required. The Applicant is also seeking cancellation of Williamson Act Contracts prior to issuance of the CUP by the County.

The Project would include two Linear Facility Routes (LFRs) located on approximately 41 acres of federal lands and require a Right-of-Way (ROW) Grant from the Bureau of Land Management (BLM). These LFRs would consist of one 230-kilovolt (kV) generation tie (gen-tie) line, two access roads (both would be constructed—one for primary access and one for County-required secondary access for emergency services), and one collector line route, all of which would be located on lands administered by BLM. The Project would interconnect to the electrical grid at Southern California Edison's 230 kV Red Bluff Substation via line tap on the existing Desert Harvest gen-tie line located on lands administered by BLM. Although this EIR will consider the environmental impacts of the Project as a whole, including components outside state and local agency jurisdiction, BLM will prepare and rely on its own environmental review document in accordance with the National Environmental Policy Act (NEPA).

1.2 California Environmental Quality Act

Under CEQA, as amended (Public Resources Code [PRC] 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. Following CEQA review, the County, as the lead agency, has the authority to act first on the Project before any of the responsible agencies take action on the Project. County decision makers (Board of Supervisors) will use the EIR for decision making regarding the Project. If the Project is approved by all required permitting agencies, the County would be responsible for reviewing and approving all CEQA-related pre-construction compliance plans and ensuring that the Project modifications and operations are conducted in accordance with the mitigation measures and other permit conditions.

1.2.1 Purpose of the EIR

An EIR is a public informational document used in the planning and decision-making process. This project-level EIR will analyze the environmental impacts of the Project. The Riverside County Board of Supervisors

will consider the information in the EIR, including the public comments and staff response to those comments, during the public hearing process. The final decision is made by the Board of Supervisors, who may approve, conditionally approve, or deny the Project on lands subject to County jurisdiction.

Section 15151 of the State CEQA Guidelines provides the following standards for EIR adequacy:

> An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection; but for adequacy, completeness, and a good faith effort at full disclosure.

CEQA requires that an EIR reflect the independent judgment of the lead agency regarding the impacts, the level of significance of the impacts both before and after mitigation, and mitigation measures proposed to reduce the impacts. A Draft EIR is circulated to responsible agencies, trustee agencies with resources affected by the project, and interested agencies and individuals. The purposes of public and agency review of a Draft EIR include sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting mitigation measures and alternatives capable of avoiding or reducing the significant effects of the project, while still attaining most of the basic objectives of the project.

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 as complying with CEQA and take action on the Project. The County will consider whether to approve CUP 220035 and PUP 220002 for the construction, operation, maintenance, and decommissioning of the Project on land subject to County jurisdiction.

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 Project Objectives

The Project would provide Riverside County as well as the state of California with a renewable energy source that would assist California in complying with the Renewables Portfolio Standard (RPS), established in 2002 under Senate Bill (SB) 1078, updated in 2015 under SB 350.[1] SB 350 requires that 50% of all electricity sold in the state be generated from renewable energy sources by the year 2030. SB 100 was approved in September 2018 and would increase the RPS to a 100% goal by 2045.[2] The Applicant's Project objectives, purpose, and need for the Project are:

- Utilize property within Riverside County to develop an economically feasible and commercially financeable project for the delivery of up to 117 MW of affordable wholesale solar PV energy generation and up to 117 MW of battery energy storage capacity to California ratepayers under long-term contracts with electricity service providers.

[1] California Renewables Portfolio Standard Program. September 2002. California State Senate. Bill No. 1078. leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200120020SB1078.

[2] Clean Energy and Pollution Reduction Act. October 2015. California State Senate. Bill No. 350. leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350.

- Minimize environmental impacts and land disturbance associated with solar development by maximizing facility siting on relatively flat, previously disturbed agricultural lands with high solar insolation value, near an identified "solar energy zone" / "Development Focus Area" and in close proximity to road access and established utility corridors.
- Support California's efforts to reduce greenhouse gas (GHG) emissions consistent with the timeline established in 2006 under California Assembly Bill 32, the Global Warming Solutions Act of 2006, which requires the California Air Resources Board to reduce statewide emissions of GHGs to at least the 1990 emissions level by 2020.[3] This timeline was updated in 2016 under SB 32, which requires that statewide GHG emissions are reduced to at least 40% below the statewide GHG emissions limit by 2030.[4]
- Support California's aggressive RPS Program consistent with the timeline established by SB 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases"), as approved by the California legislature and signed by Governor Brown in September 2018, which increases RPS in 2030 from 50% to 60% and establishes a goal of 100% RPS by 2045.[5]
- Further the goals of AB 1279, the California Climate Crisis Act, to achieve net zero greenhouse gas emissions no later than 2045, and SB 1020, the Clean Energy, Jobs, and Affordability Act of 2022, requiring that eligible renewable energy resources and zero-carbon resources supply 90 percent of all retail sales of electricity to California end-use customers by 2035.
- Expand the reach of renewable energy development through the creation of high-capacity battery energy storage systems (BESS) that help to solve California's "duck curve" power production problem and increase energy storage opportunities to meet statewide renewable energy goals and support grid reliability.
- Bring sales tax revenues to Riverside County by establishing a point of sale in the County for the procurement of most major project services and equipment.
- Provide green jobs with living wages to Riverside County residents and the State of California.

1.4 Summary of the Project Evaluated in this EIR

The County is the lead agency for the Project, under whose authority this EIR has been prepared. For purposes of this EIR, the term "Project" refers to the discretionary actions required to implement CUP No. 220035, PUP No. 220002, and Development Agreement No. 2200018 proposed along with all the activities associated with its implementation including planning, construction, decommissioning, and operation. In summary, the Project, as evaluated throughout this EIR, evaluates the impacts that would occur as a result of developing the Project site. Specifically, the Applicant is requesting the following governmental approvals from the County to implement the Project (refer to Chapter 2, Description of the Project, for a complete description of the Project's construction and operational characteristics):

- CUP No. 220035 is proposed for the construction, operation, and decommissioning of the proposed solar facility within the County's jurisdiction.

[3] Global Warming Solutions Act. September 2006. California State Assembly. Bill No. 32. www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf.

[4] Global Warming Solutions Act: emissions limit. September 2016. California State Senate. Bill No. 32. leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32.

[5] Senate Bill No. 100. September 2018. leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100.

- PUP No. 220002 is proposed for the portions of the 230 kV gen-tie line that would traverse County roads (i.e., Osborne Road and Kaiser Road).

Provided below is a list of known discretionary and ministerial actions needed to implement the Project. This EIR covers all federal, state, and local government approvals that may be needed to construct or implement the Project, whether explicitly noted below or not.

1.4.1 Riverside County Board of Supervisors

1. Approval by resolution of CUP No. 220035
2. Approval by resolution of PUP No. 220002
3. Cancellation of Williamson Act contracts within the Project site
4. Diminishment of Chuckwalla Agricultural Preserve #2
5. Disestablishment of Chuckwalla Agricultural Preserve #3
6. Enter into a Development Agreement with the Applicant, per Board of Supervisors Policy B-29 (discussed below)
7. Certify this EIR and make appropriate CEQA findings

1.4.2 Subsequent Project Approvals

Subsequent approvals associated with the Project and covered by this EIR may include, but are not limited to, the following. A table of required permits is also included as Table 1-1 (see Section 1.8, Agencies Relying on the EIR; Anticipated Permits and Approvals).

1. Conditional and public use permits by the County, approving development of specific uses conditionally permitted by the approved zoning
2. Grading permits, road improvements, and drainage improvements by the County and County Flood Control and Water Conservation District to allow implementation of the Project
3. Grant of ROW by BLM for the construction, decommissioning, and operation of the Linear Facility Routes on BLM-administered land
4. Encroachment permits by the County to allow access within County ROWs, for construction of various roadway/circulation and utility improvements, as well as encroachment permits by the California Department of Transportation

Board of Supervisors Policy B-29. The Project is subject to Policy B-29, and the developer would need to enter into a development agreement with the County. The purpose of Policy B-29 is to ensure that the County does not disproportionately bear the burden of solar energy production and ensure the County is compensated in an amount it deems appropriate for the use of its real property. The policy states that the solar power plant owner shall annually pay the County $150 for each acre of land involved in the power production process. It also lists requirements for solar power plant owners relating to sales and use taxes payable in connection with the construction of a solar power plant. Once the Development Agreement (No. 2200018) is enacted, the Project would comply with this policy.

1.5 Public Review and Noticing

CEQA requires lead agencies to solicit, record, and evaluate feedback from other agencies, the public, and other interested parties on the environmental effects of a project to aid decision making. Additionally, CEQA can, in certain circumstances, require that projects be monitored after they have been permitted to ensure that mitigation measures are implemented.

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

1.5.1 Notice of Preparation

In compliance with CEQA Guidelines Section 15082, a Notice of Preparation (NOP) was issued on May 12, 2023. The notice briefly described the Project, location, environmental review process, potential environmental effects, and opportunities for public involvement. A map of the Project site was included.

The NOP was uploaded to the Office of Planning and Research (State Clearinghouse) website for issuance to state agencies. The NOP was filed with the County Clerk on May 12, 2023. The NOP was mailed to agencies, organizations, local governments, elected officials, Native American tribes all residents within 2,400 feet of the Project boundaries, and individuals on the County's interested parties list. A copy of the NOP was posted on Riverside County's website.

The NOP solicited input regarding the scope and content of the environmental information to be included in the Draft EIR. The NOP was issued with a public comment period end date of June 12, 2023; however, during the NOP scoping meeting the County approved a 2-week extension of the end date, which extended the end date to June 26, 2023. 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.

A total of 15 comment letters were received during the scoping period and five commenters provided verbal comments during the scoping meeting. An additional three letters were received outside of the scoping period. Section 1.6, Scoping Comments, includes a summary of the written and oral comments received.

1.5.2 Public Scoping Meeting

In compliance with California Code of Regulations Section 15082(c), the 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:

June 5, 2023, 1:30 p.m.
Riverside County Planning Department
4080 Lemon Street, 12th Floor
Riverside, California 92501

Due to the COVID-19 pandemic, the traditional format of in-person meetings was modified. The public scoping meeting was held both in-person and virtually through the web-based platform Zoom to allow for maximum attendance. The CEQA Scoping Report, provided in Appendix A of this EIR, contains copies of the PowerPoint presentation, sign-in sheets, and speaker registration cards that were used at the scoping meeting, as well as a summary of oral comments received at the meeting. Sixteen people signed in at the scoping meeting.

1.5.3 Native American Tribal Outreach and AB 52 Compliance

On December 16, 2022, the County mailed certified letters to representatives of 11 tribes that had previously submitted a written request to the County to receive notification of Project. These tribes included the Agua Caliente Band of Cahuilla Indians, Augustine Band of Cahuilla Indians, Cabazon Band of Mission Indians, Cahuilla Band of Indians, Colorado River Indian Tribes, Fort Yuma Quechan Indian Tribe, Morongo Band of Mission Indians, Ramona Band of Cahuilla, Santa Rosa Band of Cahuilla Indians, Soboba Band of Luiseño Indians, and Twenty-Nine Palms Band of Mission Indians. The letters included a brief description of the Project, information on how to contact the lead agency Project Manager, and a shapefile and aerial exhibit depicting the location of the Project. The letters noted that requests for consultation needed to be received within 30 days of the date of receipt of the notification letter; two responses were received, which came from the Agua Caliente Band of Cahuilla Indians and Augustine Band of Cahuilla Mission Indians. Additional details on the AB 52 consultation process are included in Section 3.6 (Cultural Resources).

1.5.4 Review of Draft EIR

A Notice of Completion has been filed with the State Clearinghouse to begin the public review period (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 County Clerk's office.

This Draft EIR has been 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 Chapter 6, List of Preparers and Organizations Consulted.

The Draft EIR and the studies upon which it is based are available for review at the locations shown as follows:

- Riverside County Planning Department, 4080 Lemon Street, 12th Floor, Riverside, California 92501 (951) 955-3200
- Riverside County Planning Department, Palm Desert Office, 77588 El Duna Court, Suite H, Palm Desert, California 92211 (760) 863-8277

1.5.5 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. Consideration of the Final EIR and requested Project approvals by the County Board of Supervisors is anticipated in 2024.

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, CEQA Guidelines Section 15097 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 Project and included as part of the Final EIR.

The County Board of Supervisors will consider all comments on the Draft EIR before deciding whether to certify the Final EIR and whether or not to approve the Project.

1.6 Scoping Comments

1.6.1 Scoping Comments Summary

This section summarizes the verbal and written comments received from the public and agencies during the scoping period for the Project. A total of 15 scoping comments were received during the scoping period. The Scoping Report includes all scoping comments received during the scoping period (refer to Appendix A).

Scoping concerns included the following:

Desert Tortoise Council

- Requests mitigation measures are implemented which would prevent the attraction of tortoise predators such as common ravens and coyotes to the project area
- Requests that a jurisdictional waters analysis is performed for all potential impacts to washes, streams, and drainages, including both manmade features
- Requests that cumulative impacts on desert tortoise, including desert tortoise critical habitat, are analyzed.

South Coast Air Quality Management District

- Recommends that the lead agency use South Coast Air Quality Management District's (SCAQMD's) CEQA Air Quality Handbook and website as guidance when preparing the air quality and greenhouse gas analyses.
- Recommends that the lead agency use the California Emissions Estimator Model (CalEEMod) land use emissions software to estimate pollutant emissions.
- Request that the lead agency should identify any potential adverse air quality impacts that could occur from all phases of the Project and all air pollutant sources related to the Project.
- Provides several resources to assist the lead agency with identifying potential air quality mitigation measures.

Metropolitan Water District of Southern California

- Requests that potential impacts to Metropolitan's transmission system be analyzed
- Requests that the California Independent System Operator includes Metropolitan as a Potentially Affected System for the Project
- Expresses concern for potential impacts of desert projects on Colorado River water supplies
- Notes that Metropolitan will not be responsible should any scouring occur on the Project site from Metropolitan's Eagle Mountain Pumping Plant emergency spillways, which are located northeast of the Project
- Notes that Metropolitan requires unobstructed access to their facilities and must maintain ROWs

Native American Heritage Commission

- Requests the Project complies with SB 18 and AB 52

- Requests specific measures be included in the MMRP

Private Citizens

- Concern regarding visual impacts, including impacts to the night sky and visual quality of the community
- Concern regarding the quality of life diminishing for residents and visitors
- Reduction in property values
- Potential for solar panels to alter surface hydrology and create local flooding during rain events and monsoon
- Concern for reduction in local water supply
- Requests well level depth study be conducted for the Chuckwalla Aquifer, as well as an overdraft water quality and mineralization study
- Concern related to adverse health effects including fugitive dust, valley fever, electromagnetic hypersensitivity, and silicosis, as well as stress and anxiety
- Impacts due to dust and soil erodibility
- Project proximity to residents
- Increased air and ground temperatures
- General safety concerns associated with large construction vehicles
- Reduction in desert lands due to solar development
- Effects of climate change
- Desert Renewable Energy Conservation Plan and the Riverside East Solar Energy Zone do not require the County to authorize solar near the Lake Tamarisk Community
- Impacts due to dust and soil erodibility
- Soil sterilization from chemical use
- Increased fire concerns due to limited water availability
- Existing water pumping system's inability to support construction water usage and wind-driven fires
- Concern regarding loss of carbon sequestration
- Request for a 5-mile natural desert zone buffer from Lake Tamarisk Community borders to the nearest solar installation infrastructure and relocation of the Project east of Highway 177
- Request for distributed energy be considered as a reasonable alternative to the Project
- Request for a specific array of panels dedicated to supplement Desert Center residents at least during the hottest months of the year
- Request for compensation for increased power bills for year-round residents

Applicable scoping comments for each resource are discussed and addressed under the Project impact analysis for each issue area section in Chapter 3, Environmental Analysis.

1.7 Environmental Impact Report Format and Content

This EIR was prepared in accordance with state administrative guidelines established to comply with CEQA. (Refer also to PRC Section 21080.5; 14 CCR 15251[o].)

This EIR is divided into the following major chapters. Figures are provided as necessary in each section to graphically represent the topic at hand.

- **Executive Summary:** This chapter provides an overview of the Project and a summary of the significant impacts identified in the analysis and associated mitigation measures. A summary of the alternatives and environmentally superior alternative is also provided.
- **Chapter 1. Introduction:** This chapter provides an overview of the Project evaluated in the EIR and a summary of the objectives for the Project. This chapter also discusses agency use of the document, provides a summary of the contents of the EIR, and provides a summary of the scoping comments.
- **Chapter 2. Description of the Project:** This chapter gives an overview of solar technology, details the location and characteristics of the Project, and provides a description of the surrounding land uses. It includes construction, decommissioning, and operational aspects of the Project and relevant background information.
- **Chapter 3. Environmental Analysis:** This chapter contains a detailed environmental analysis of the existing conditions; describes impacts from construction, operation, maintenance, and future decommissioning of the Project; identifies and recommends potentially feasible mitigation measures, where needed; and includes a discussion of cumulative impacts.
- **Chapter 4. Alternatives:** This chapter provides descriptions of the alternatives that were evaluated in the document. The chapter also presents alternatives that were not evaluated in the document and provides a screening analysis that was used to identify such alternatives. This chapter provides a comparative analysis (matrix) to distinguish the relative effects of each alternative and its relationship to the Project's objectives and impacts. The alternatives analysis also identifies the "environmentally superior alternative," as required by CEQA Guidelines Sections 15126.6(d) and (e)(2).
- **Chapter 5. Other CEQA Considerations:** This chapter presents an analysis of the Project's growth-inducing impacts and other CEQA requirements, irreversible commitment of resources, and significant and unavoidable impacts.
- **Chapter 6. List of Preparers and Organizations Consulted:** 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 CEQA Scoping Report, technical reports and studies, and other relevant information are included as appendices to support the environmental analyses.

1.7.1 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 Project and that the Project would potentially affect or alter. 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 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 condition that is the result of 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 is not itself a significant impact on the environment.
- **Mitigation measures (MMs)**: Project-specific actions that, if adopted, avoid or substantially reduce the 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 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 Project. Any BMPs discussed in the EIR are inherently part of the 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 (CEQA Guidelines Section 15355). 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 overtime.

Section 15130 of the CEQA Guidelines provides further direction on the definition of cumulative impacts:

> (a)(1) As defined in Section 15355, 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. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR
>
> (b) The discussion of cumulative impacts shall…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 example, if another project contributes only to a cumulative impact upon natural resources, its impacts on public services need not be discussed as part of cumulative impact analysis. Taken together, these elements define what counts for the practitioner and help to focus the evaluation upon other actions that are closely related in terms of impact on the resource—not closely related project types.

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.

1.8 Agencies Relying on the EIR; Anticipated Permits and Approvals

The majority of the Project would be located on private lands under County jurisdiction, which would require discretionary approvals from the County. The Applicant is seeking a minimum 39-year CUP (No. 220035), and Development Agreement (No. 2200018) for the construction, operation, and decommissioning of the solar facility, as well as a PUP (No. 220002) for portions of the gen-tie line that would traverse County Roads (Osborne Road and Kaiser Road).

Ancillary permits, including encroachment permits, grading and construction permits, and certificates of occupancy, are anticipated from the County. 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 Project are described in Table 1-1.

Table 1-1 provides a list of permits and other approvals that will (or may) be needed for the Project. The County, as the CEQA lead agency, will act first on the Project before any of the responsible agencies. County decision makers (Board of Supervisors) will certify the EIR as being in compliance with CEQA and will make any findings or statement of overriding considerations required by law, prior to the County or any other agency relying on the EIR for permit/land use approvals. Then, the County decision makers will use the EIR for decision making regarding the Project. If the Project is approved by all required permitting agencies, the County would be responsible for reviewing and approving all pre-construction compliance plans and ensuring that the Project modifications and operations are conducted in accordance with the Project mitigation measures and other permit conditions.

Table 1-1. Permits and Approvals for the Project

Agency Type	Agency Name	Permit	Applicability
Federal	Bureau of Land Management	Right-of-Way Grants	For use of federal land for the Linear Facility Routes.

Table 1-1. Permits and Approvals for the Project

Agency Type	Agency Name	Permit	Applicability
Federal	Bureau of Land Management	National Environmental Policy Act (NEPA)	To be used by BLM (NEPA lead agency) to evaluate the environmental effects of constructing, operating, maintaining, and decommissioning the Linear Facility Routes.
Federal	U.S. Fish and Wildlife Service	Biological Opinion or Concurrence	Determination whether the Linear Facility Routes would jeopardize existence of federal listed endangered or threatened species, and if necessary, issue an Incidental Take Statement authorizing incidental "take" of the listed species.
Federal	U.S. Army Corps of Engineers	Clean Water Act (CWA), Section 404 Jurisdictional Determination	Determination of whether the Project includes waters of the United States subject to federal jurisdiction under Section 404 of the CWA.
Federal	U.S. Environmental Protection Agency (EPA)	Hazardous Waste ID Number	EPA ID No. and register as a Hazardous Waste Generator with Department of Toxic Substances Control (if required).
State or Regional	State Historic Preservation Office	National Historic Preservation Act Section 106 Review (36 CFR 800)	Determination of whether the Linear Facility Routes contain cultural resources listed on or eligible for listing on the National Register of Historic Places.
State or Regional	California Department of Fish and Wildlife	Incidental Take Permit	For compliance with Section 2081 of the California Endangered Species Act (if required).
State or Regional	California Department of Transportation, District 8	Right-of-Way Encroachment Permit	Encroachment permit would be required along State Route 177/ Rice Road.
State or Regional	California Department of Transportation, District 8	Oversize/ Overweight Vehicle Transportation Permit	Transport of oversized loads.
State or Regional	Regional Water Quality Control Board, Region 8	401 Water Quality Certification	Certification required if the Project may result in a discharge to waters of the United States (if required).
State or Regional	California Department of Fish and Wildlife	Section 1602 Streambed Alteration Agreement	Authorization allowing disturbance of state jurisdictional streambeds, if required.
State or Regional	Regional Water Quality Control Board, Region 8	National Pollutant Discharge Elimination System Construction General Permit	For construction activity equal to or greater than 1 acre.

Table 1-1. Permits and Approvals for the Project

Agency Type	Agency Name	Permit	Applicability
State or Regional	Regional Water Quality Control Board, Region 8	Waste Discharge Requirement	For discharges that could affect the quality of waters of the state.
State or Regional	South Coast Air Quality Management District (SCAQMD)	Authority to Construct and Permit to Operate	For construction and operations of the Project and for the facility backup generator permits for Project operations.
Local	South Coast Air Quality Management District (SCAQMD)	Fugitive Dust Control Plan	SCAQMD requirement prior to construction.
Local	Riverside County	Conditional Use Permit	Construction of the solar facility on private land under County jurisdiction.
Local	Riverside County	Public Use Permit	Construction of the gen-tie line across County Roads.
Local	Riverside County	Cancellation of Williamson Act Contract	Cancellation of Williamson Act Contracts applicable to private parcels.
Local	Riverside County	Removal from County Agriculture Preserve	Removal of private lands from the County Agriculture Preserves.
Local	Riverside County	California Environmental Quality Act (CEQA) EIR	To be used by the County (CEQA lead agency) to evaluate the environmental effects of constructing, operating, maintaining, and decommissioning the Project.
Local	Riverside County	Development Agreement	As required by Riverside County's B-29 policy.
Local	Riverside County	Construction (Building/ Grading Permit)	The County authorizes construction activities under the master Construction Permit. This permit encompasses grading, building, electrical, mechanical, landscaping, and other activities. The County's review for compliance with ordinance standards is undertaken as part of this review.
Local	Riverside County	California Desert Native Plants Permit to Harvest Native Plants	Required if harvesting native succulents is planned within the Project site. Native succulents are sparsely distributed and mostly occur outside the agricultural lands near the western Linear Facility Routes.

1.8.1 Related Federal Review and Consultation Requirements

The Project includes two LFRs located on federal public lands administered by BLM and designed to support the Project. The Project would interconnect with the Southern California Edison Red Bluff Substation via a line tap at the existing Desert Harvest gen-tie line located on BLM-administered lands. The portion of the 230 kV gen-tie transmission line outside of the solar facility would be located on approximately 1.25 miles of federal lands managed by BLM Palm Springs-South Coast Field Office.

Construction, decommissioning, operation, and maintenance of the LFRs are analyzed in this EIR and additionally in an Environmental Assessment under NEPA.

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

1.9 Primary Contact Person

The primary contact person for this EIR is Tim Wheeler (personal contact information is listed below):

Tim Wheeler, Planner
Riverside County Planning Department
4080 Lemon Street, 12th Floor
Riverside, California 92501
Phone: (951) 955-6060
Email: twheeler@rivco.org

2 Description of the Project

Project Title

Sapphire Solar Project

Lead Agency Name and Address

County of Riverside, Planning Department
4080 Lemon Street, 12th Floor, Riverside, California 92501
951.955.3200

Contact Person and Phone Number

Lead Agency Contact

Mr. Timothy Wheeler, Project Planner
County of Riverside
4080 Lemon Street, 12th Floor, Riverside, California 92501
951.955.6060

Applicant

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Persons Authorized to Sign Documents for EDF Renewables Development, Inc.

- Mr. Devon Muto (Vice President, West Region Solar Development)
- Kate O'Hair (Senior Vice President, U.S. On-Shore Development)
- Ryan Pfaff (Executive Vice President, Grid Scale Power)

2.1 Introduction

EDF Renewables Development, Inc. (EDFR) on behalf of Sapphire Solar, LLC (Applicant) proposes to entitle, construct, operate, maintain, and decommission the Sapphire Solar Project (Project). The Project is a utility-scale solar photovoltaic (PV) electrical generating and storage facility that will generate and deliver renewable electricity to the statewide electricity transmission grid. The proposal also includes future decommissioning, which is anticipated to occur after 39 years or more of operation.

The Project is located on approximately 1,123 acres, of which approximately 1,082 acres is located on private lands and approximately 41 acres is located on land administered by the U.S. Department of Interior, Bureau of Land Management (BLM), Palm Springs-South Coast Field Office (Figure 2-1, Project Location). The 41-acre area on BLM-administered lands would be limited to the Linear Facility Routes (LFRs). Although the LFRs are not located within a BLM Renewable Energy Corridor, the area is located within a Development Focus Area (DFA) for solar, wind, and geothermal projects as designated by the Desert Renewable Energy Conservation Plan (DRECP) with a small portion (approximately 2.5 acres) being within the Desert Harvest Solar Project (DHSP) existing ROW. The DRECP Final Environmental Impact Statement (EIS) was approved by a Record of Decision (ROD) signed on September 14, 2016 (Figure 2-2, DRECP Development Focus Areas) (BLM 2016a).

The Project's solar site (solar site) would include up to 117 megawatts (MW) of PV solar generation and up to 117 MW of battery storage. The Project would also include two LFRs that would include one 230-kilovolt (kV) generation tie (gen-tie) line, two access roads (one would be constructed for primary access and one for County required secondary access for emergency services), and one collector line route, all of which would be located on lands administered by the BLM.

The Project would interconnect with the Southern California Edison (SCE) 230-kV Red Bluff substation via line tap on the existing DHSP gen-tie line located on lands administered by the BLM.

On March 15, 2022, EDFR submitted a Standard Form 299 application for a right-of-way (ROW) grant from BLM to construct, operate, maintain, and decommission the LFRs. The BLM will perform a separate review of the LFRs (CACA-105858937) under the National Environmental Policy Act (NEPA).

2.2 Description of the Project

2.2.1 Project Location

The Project site is located in Riverside County, in southern California (Figure 2-1). The Project is primarily located on private lands with small linear features (LFRs) located on BLM-administered land. The Project site is located approximately 3 miles north of Desert Center, approximately 40 miles west of the City of Blythe, and 3.5 miles north of Interstate (I) 10. The Project is bounded on the north, east, and west sides by BLM lands and to the south by Belsby Avenue. Melon Street runs along the west side of the Project boundary and Jojoba Street on the east. There is an operational semi-developed/aquaculture facility to the west and active agricultural operations to the east of the Project site.

Two County roads intersect the interior of the Project site from east to west, including Investor Avenue and Osborne Avenue. The portion of Osborne Avenue that intersects the Project site is approximately 0.6 miles long. Osborne Avenue is identified by Riverside County as a road "accepted for public use" by Riverside County. The portion of Investor Avenue that intersects the Project site is approximately 1 mile long. Investor Avenue is identified by Riverside County as a road "accepted for public use."

The east side of the Project site is located adjacent to California State Route (SR) 177/Rice Road. Figure 2-1 illustrates the location of the Project relative to major highways and access roads.

2.2.2 Regional Setting

The Project site is located in the western extent of Chuckwalla Valley in the Colorado Desert, north of Desert Center, east of Palm Springs and west of Blythe. The elevation of Chuckwalla Valley ranges from less than 350 feet above mean sea level (amsl) at Ford Dry Lake to approximately 1,800 feet amsl west of Desert Center and along the upper portions of the alluvial fans that surround the valley perimeter. The surrounding mountains rise to more than 3,000 feet amsl.

The topography of the Project site generally slopes downward toward the northeast at a gradient of less than 1%. Ground surface elevations at the Project site range from approximately 550 feet amsl in the eastern solar parcel to 660 feet amsl near the western end of the parcel. Land uses near the Project site include aquaculture, transportation (Kaiser Road, Rice Road/SR-177, Chuckwalla Valley Raceway and Desert Center Airport, agricultural, renewable energy (both existing and proposed), energy transmission, and unprogrammed recreational and wilderness areas. The community of Lake Tamarisk is located approximately 1.28 miles from the Project site at its nearest point. In addition to residential uses including mobile and manufactured homes and permanent homes, the community includes a golf course, recreational ponds, small community center and a fire station. A small church facility is located to the immediate north of the Lake Tamarisk area.

The proposed Easley Renewable Energy project is being developed by Intersect Power (which has no affiliation to the Project or EDFR) would surround the Project on almost all sides. In addition to vacant, undeveloped lands featuring scattered and low desert shrubs and occasionally, electrical distribution infrastructure, and informal access roads, the existing Desert Sunlight and DHSP projects are located north of the Project site; the existing Athos Solar Project is located south, northeast, and east of the Project site; and the recently approved Oberon Solar Project (a series of scattered yet interconnected, post-mounted photovoltaic solar array sites generally located to the south and east of SR-177) is located to the south of the Project site and Lake Tamarisk. The distance from each of these sites to the Project are listed in Table 2-1, below. Figure 2-3, Project and Other Solar Projects, shows the Project in relation to other existing, approved, and proposed solar development projects.

Table 2-1. Surrounding Projects

Project Name	Status	Direction from Project Site	Approximate Distance from Project Site
Easley Renewable Energy	Proposed	Almost All Sides	Directly adjacent
Athos	Existing	Southeast	0.49 miles
Desert Harvest Solar Project	Existing	North	0.5 miles
Desert Sunlight	Existing	North	1.5 miles
Oberon	Approved	South	1.7 miles

The Project proposes to construct an approximately 1.74-mile-long 230-kV gen-tie line built within LFR A on the northwest corner of the Project that would connect to the existing DHSP transmission line via a line tap at pole 13 of that line. By utilizing this existing infrastructure, the Project would be electrically connected to the electrical grid and deliver energy to the 230-kV Red Bluff substation located approximately 5 miles east of the community of Desert Center.

2.2.3 Land Use and Zoning

Riverside County – Private Lands

General Plan Land Use. The Project is located within the Desert Center Area Plan Boundary of the Riverside County General Plan. The private lands associated with the Project are designated as Open Space, Rural, and Agriculture per the Riverside County General Plan (Figure 2-4, Riverside County General Plan - Land Use). Assessor Parcel Numbers (APNs) 807-172-010, 807-172-011, 808-240-002 through 808-240-004, 808-260-005 through 808-260-007, 808-260-013 through 808-260-015, and 811-270-013 and 811-270-012 are located within lands designated as Open Space, Rural. APNs 808-240-001, 808-240-005, 808-240-006, 808-240-009 through 808-240-016, 808-250-001 through 808-250-016, and 811-270-008 through 811-270-011 are located within lands designated as Agriculture.

Zoning. The private lands associated with the Project are located within lands zoned as A-1-20 Light Agriculture and W-2-10 Controlled Development Areas (Figure 2-5, Riverside County Zoning). APNs 808-240-001 through 808-240-006, 808-240-009 through 808-240-016, as well as APNs 808-250-001 through 808-250-016, and APNs 811-270-008 through 811-270-013, are located within A-1-20 Light Agriculture. APNs 807-172-010, and 807-172-011, 808-260-005 through 808-260-007, and 808-260-013 through 808-260-015, are located within W-2-10 Controlled Development Areas.

In accordance with Riverside County Ordinance No. 348, solar power plants on lots 10 acres or larger are permitted through a Conditional Use Permit (CUP) within the A-1-20 Light Agricultural and W-2-10 Controlled Development Areas zoning designations (County of Riverside 2023). The majority of the Project, approximately 1,082 acres, would be located on private lands under Riverside County's jurisdiction. The Applicant is seeking a minimum 39-year CUP and Public Use Permit (PUP) for the construction, operation, maintenance, 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 cross County Roads (Osborne Avenue and Kaiser Road). Riverside County will be the lead agency in preparing the California Environmental Quality Act (CEQA) document to evaluate the environmental effects of constructing, operating, maintaining, and decommissioning the Project.

Farmland. Portions of the private lands associated with the Project, specifically APN 808-240-001, 808-240-005, 808-240-006, 808-240-009 through 808-240-016, 808-250-001 through 808-250-016, and 811-270-008 through 811-270-012 are located on lands subject to active Williamson Act contracts. The California Land Conservation Act (Williamson Act) was enacted by the State Legislature in 1965 as a means of preserving California's agricultural lands. The Williamson Act involves voluntary contracts between landowners and the County, in which the landowner agrees to retain their land in agriculture or other open space uses in return for property tax relief on the lands under contract. A Williamson Act contract can be cancelled in accordance with California Government Code Section 51280 et seq. The landowner must petition the Board of Supervisors for cancellation, which the Board may grant if it makes required statutory findings (Government Code Section 51282[a]). Cancellation of the Williamson Act contracts will be required prior to issuance of a CUP by Riverside County.

County Agricultural Preserve. The areas enrolled in Williamson Act contracts were established as Riverside County Agricultural Preserves in 1987 by the County Board of Supervisors via Resolution No. 87-33 for Chuckwalla Agricultural Preserve No. 2, Map No. 622, and Resolution No. 87-57 for Chuckwalla Agricultural Preserve No. 3, Map No. 629. As part of the County's Williamson Act contract cancellation process, the parcels under a Williamson Act contract within the Project site would be removed from the County's Agricultural Preserves.

In its existing condition, Chuckwalla Agricultural Preserve No. 2 includes approximately 577.61 acres. As part of the Williamson Act contracts cancellation, the Project would remove approximately 537.44 acres, leaving approximately 40.17 acres remaining within Chuckwalla Agricultural Preserve No. 2. In its existing condition, Chuckwalla Agricultural Preserve No. 3 includes approximately 236.10 acres. As part of the Williamson Act contracts cancellation, the Project would remove approximately 102.04 acres, leaving approximately 134.06 acres remaining within Chuckwalla Agricultural Preserve No. 3. However, due to adjacent developments the removal of an additional 134.06 has been requested and therefore the Project would result in the disestablishment of Agricultural Preserve No. 3.

Surrounding Land Use/Zoning. All private land adjacent to the Project site is designated as Open Space, Rural in the Riverside County General Plan Land Use Element. There are areas designated as Public Facilities to the east and west of the Project site including the Desert Center Airport/Chuckwalla Valley Raceway (located approximately 1.3 miles to the east of the Project site) and the Desert Center Landfill (located approximately 1.25 miles to the west of the Project site), respectively.

In terms of zoning, the private parcels to the north, east, and south of the Project site are zoned as N-A Natural Assets Zone. Areas to the south and southeast of the Project site are zoned as A-1-20 Agricultural Zone and W-2-10 Controlled Development Areas. The area to the west of the Project site (west of Melon Street) are zoned as W-2-10 Controlled Development Areas.

It should be noted that BLM administered lands are located directly north, east, and south of the Project site as shown on Figures 2-4 and 2-5.

Bureau of Land Management – Linear Facility Routes

DRECP. The majority of the 41-acre area associated with the two LFRs on BLM administered lands is located within a Development Focus Area for solar, wind, and geothermal projects as designated by the DRECP with a small portion (approximately 2.5 acres) being within the DHSP existing ROW. The DRECP Final EIS was approved by a Record of Decision signed on September 14, 2016 (Figure 2-2) (BLM 2016a).

2.2.4 Project Objectives and Benefits

The Project would provide Riverside County, as well as the State of California, with a renewable energy source that would assist California in complying with the Renewables Portfolio Standard (RPS), established in 2002 under Senate Bill (SB) 1078, updated in 2015 under SB 350.[1] SB 350 requires that 50% of all electricity sold in the state be generated from renewable energy sources by the year 2030. SB 100 was approved in September 2018 and would increase the RPS to a 100% goal by 2045.[2] The Applicant is proposing to construct the Project to meet the following objectives:

- Utilize property within Riverside County to develop an economically feasible and commercially financeable project for the delivery of up to 117 MW of affordable wholesale solar PV energy generation and up to 117 MW of battery energy storage capacity to California ratepayers under long-term contracts with electricity service providers.
- Minimize environmental impacts and land disturbance associated with solar development by maximizing facility siting on relatively flat, previously disturbed agricultural lands with high solar

[1] California Renewables Portfolio Standard Program. September 2002. California State Senate. Bill No. 1078. Available: leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200120020SB1078.

[2] Clean Energy and Pollution Reduction Act. October 2015. California State Senate. Bill No. 350. Available: leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350.

insolation value, near an identified "solar energy zone" / "Development Focus Area" and in close proximity to road access and established utility corridors.

- Support California's efforts to reduce greenhouse gas (GHG) emissions consistent with the timeline established in 2006 under California Assembly Bill 32, the Global Warming Solutions Act of 2006, which requires the California Air Resources Board to reduce statewide emissions of GHGs to at least the 1990 emissions level by 2020.[3] This timeline was updated in 2016 under SB 32, which requires that statewide GHG emissions are reduced to at least 40% below the statewide GHG emissions limit by 2030.[4]
- Support California's aggressive RPS Program consistent with the timeline established by SB 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases"), as approved by the California legislature and signed by Governor Brown in September 2018, which increases RPS in 2030 from 50% to 60% and establishes a goal of 100% RPS by 2045.[5]
- Further the goals of AB 1279, the California Climate Crisis Act, to achieve net zero greenhouse gas emissions no later than 2045, and SB 1020, the Clean Energy, Jobs, and Affordability Act of 2022, requiring that eligible renewable energy resources and zero-carbon resources supply 90 percent of all retail sales of electricity to California end-use customers by 2035.
- Expand the reach of renewable energy development through the creation of high-capacity battery energy storage systems (BESS) that help to solve California's "duck curve" power production problem and increase energy storage opportunities to meet statewide renewable energy goals and support grid reliability.
- Bring sales tax revenues to Riverside County by establishing a point of sale in the County for the procurement of most major project services and equipment.
- Provide green jobs with living wages to Riverside County residents and the State of California.

2.3 Project Components

The Project consists of the solar site (located on private land) and two LFRs (located on BLM Land). The proposed solar site components on private lands include the following:

- Solar field with a capacity of 117 MW
- Crystalline silicon panels, copper indium gallium selenide panels, bifacial panels, or Cadmium Telluride panels
- Single axis tracker components
- Direct Current (DC) to Alternating Current (AC) power inverters at each solar block
- Transformer(s)
- Integrated, on-site battery energy storage system (BESS) with a capacity of 117 MW
- On-site or off-site operations and maintenance (O&M) building

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[3] Global Warming Solutions Act. September 2006. California State Assembly. Bill No. 32. www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf.

[4] Global Warming Solutions Act: emissions limit. September 2016. California State Senate. Bill No. 32. leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32.

[5] Senate Bill No. 100. September 2018. leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100.

- On-site substation (including a generator and propane tank for emergency use)
- Underground or aboveground (or a combination of both) 34.5-kV collection system
- Underground or aboveground optical ground wire (OPGW)
- Up to three on-site groundwater wells
- Microwave/communications tower(s)
- Meteorological station and albedometer weather station
- Staging area for construction trailers and construction parking
- Up to five temporary laydown areas throughout the Project site
- A roadway system consisting of internal and perimeter roadways
- Integrated Supervisory Control and Data Acquisition (SCADA) system
- Inverter Stations and Transformers
- Electrical Collection System

The Project components on BLM lands may include the following:

- 230-kV transmission line, poles, and ancillary componentry (e.g., fiber optic cabling, cross arms, conductors, etc.) connecting solar and BESS project to the electrical grid
- Main and secondary access road to the Project for construction and O&M
- 34.5-kV buried collector line to bring power generated from the solar arrays to the Project substation
- 12-kV distribution line for bringing permanent power to the on-site O&M building, backup power to the on-site electrical substation, backup power to the BESS, and temporary power during construction.

2.3.1 Solar Site (Private Lands)

Solar Generator

The Project would use up to 117-MW PV-system blocks to convert solar energy directly to electrical power for export to the electrical grid. Solar power is generated through PV modules converting sunlight striking the modules directly to low-voltage DC power, which is subsequently transformed to alternating current AC power via an inverter that is placed on site. PV cells are located on panels that are mounted on a single-axis tracking device that follows the sun. The PV panel modules are mounted on steel support posts that are pile-driven into the ground. The arrays are typically placed on an aluminum rail such that with a maximum tilt of 60 degrees the top of the array would be a maximum of 15 feet above grade at the tallest point and approximately 2 feet above the grade at the lowest point. Solar panels on multiple rows would be 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 utility-scale PV system.

The PV modules are made of semiconductor material encapsulated in glass wherein the photovoltaic effect converts light (photons) into electrical current. Photovoltaics are best known as a method for generating electric power by using solar cells to convert energy from the sun into electricity. Energy from the sun is transmitted to the Earth as photons, which contain different levels of energy corresponding to different frequencies of the solar spectrum. When a photon is absorbed by a PV cell, the energy of the

photon is transferred to an electron in an atom within the PV cell. This added energy allows the electron to escape from the atom to become part of the current in an electrical circuit.

Power Conversion Stations (Inverters)

Within the proposed solar arrays there would be power conversion stations (PCS), also known as inverters, which would contain at a minimum one inverter and one transformer. Inverters are usually housed within an enclosed structure, which helps to reduce the resulting operational noise levels. PCS would also likely include an exhaust fan, as well as a heating, ventilation, and air conditioning (HVAC) system, which is typically mounted to the exterior of the enclosure. Noise levels generated by PCS would be associated with operation of the inverters, transformer, exhaust fans, and HVAC systems.

Battery Storage

Battery storage systems absorb, hold, and then reinject electricity into the electrical system. Energy storage plays an increasingly important role in renewable energy and helps to create a more flexible and reliable grid system. Energy storage can smooth electricity prices through arbitrage or energy shifting, manage evening energy ramps, mitigate the risk of curtailment, provide black start capability, and provide backup power.

The Project would use an up to 117-MW AC coupled centralized BESS configuration, which would include batteries housed within containers in a centralized location near the proposed on-site substation. The BESS would likely consist of containers housing batteries connected in strings and mounted on racks. AC-coupled BESS design standards typically include lighting, monitoring equipment, cooling units, active exhaust venting, multiple fire detection units including gas/heat/smoke detectors, and fire suppression systems, which adequately address fire risk associated with the unit (California Fire Code 2022). AC-coupled BESS units typically require their own inverters on their own skid. However, some BESS equipment (e.g., inverters, auxiliary transformer to control the HVAC system) may be adjacent to the container instead of within the container. A water storage tank will be installed, if required by Riverside County Fire Department, to provide water supply needed for fire protection and operations, based on consultation with Riverside County Fire Department. AC-coupled BESS would be incorporated and consolidated within or adjacent to the Project substation area within the substation yard. Different battery storage technologies, such as lithium-ion (Li-ion), sodium sulfur, and lead acid batteries, can be used for grid applications.

BESS enclosures would be accessed from the outside via cabinet doors for maintenance needs. Because the size of each battery enclosure varies widely by manufacturer, the total number of enclosures to be installed would not be known until a manufacturer has been selected. The batteries would be charged directly from the PV solar energy generated by the Project. Energy stored in the BESS would then be discharged into the grid when the energy is needed, providing important electrical reliability services to the local and regional area.

Batteries Housed within BESS Enclosures. While the final storage technology has not yet been selected; the BESS would include lithium-ion battery modules or another commercially available battery technology available at the time of construction. Batteries would be housed within outdoor BESS enclosures, which are typically made of metal. Each BESS enclosure would house hundreds of battery modules. Typical BESS enclosures are approximately 70 feet long by 13 feet wide by 15 feet high; however, these dimensions can vary widely by manufacturer. Each BESS enclosure is typically capable of storing between 2 to 5 megawatt-hours of energy.

Internal Roads

Internal roads would be constructed to allow fire and maintenance vehicle access. All internal access roads within the Project site would be up to 20 feet wide and cleared, graded, and compacted. Up to a 20-foot-wide perimeter road separating the solar arrays from the perimeter fence would be constructed within the entire perimeter of the solar site. The roads would be constructed to allow fire and maintenance vehicle access.

Solar Facility Fencing, Site Security, and Lighting

The boundary of the solar site would be secured by a permanent security fence. The fence would be an 8-foot-high chain link fence and would have top rail, bottom tension wire, and three strands of barbed wire mounted on 45-degree extension arms. With the strands of barbed wire, it would have an overall height of no more than 12 feet from the bottom of the fabric to the top barbed wire. The security fence may include wildlife exclusion fencing at the bottom and/or breakaway fencing depending on agency requirements. The posts would be set in concrete. The security fence would be installed near the start of construction but may be preceded by mowing and or vegetation clearance as required. The ingress/egress would be accessed via a locked entrance gate. Security may be enhanced with motion detectors, facility lighting, and cameras in key locations.

Nighttime lighting would be limited to areas required for operation, safety, or security, such as the on-site substation and O&M building. Nighttime lighting would be directed or shielded from major roadways or possible outside observers. Motion sensitive, directional security lights would be installed to provide adequate illumination around the perimeter of the solar site. Exterior lights would be hooded, and lighting would be shielded and directed downward to minimize glare. Off-site security personnel could be dispatched during nighttime hours or could be on site, depending on security operating needs.

The Project would use portable lighting for any emergency work that must occur on panels at night. The level and intensity of lighting during operations would be the minimum needed. Portable lighting may be used occasionally and temporarily for maintenance activities during operations.

Staging Areas

The solar site would have several temporary construction staging areas for use throughout the approximate 12- to 18-month construction period. The main staging area would include temporary construction trailers for the management of construction, a parking area, site security facilities, and portable toilet facilities that would serve the Project's sanitation needs during construction. This area would accommodate delivery of materials, vehicles, etc. Material delivery for the solar field would be ongoing; panels and framing structures would be delivered throughout the solar field adjacent to the subunit locations.

Additional temporary staging areas for material laydown including boxes of solar panels, steel, aluminum framing, conduit for underground electrical, transformers, and other project materials would be located throughout the Project area. The laydown areas would be subsumed by the build-out of the panel array with some exceptions. Materials such as boxes of panels, steel, and aluminum framing would be laid out between rows of panels and along the access roads.

Substation

The substation is anticipated to be located within the solar site and would cover approximately 15 acres (depending on collocation of the BESS facilities). The substation would be separately fenced off from the

rest of the solar project facilities and would include a switchyard component within the internal substation fence line. The substation serves to interconnect an electrical generator to the grid. The substation would convert the energy produced by the solar panels from 34.5-kV to 230-kV. It would include transformers, breakers, switches, meters, and related equipment.

The substation will include a backup emergency generator for use if the regional transmission system fails. The substation would be surrounded by 12-foot security fencing and locked gates to comply with electrical codes.

A small control enclosure would be located nearby the substation and would be accessible to authorized high-voltage personnel only. The control building would house electrical control equipment, battery/DC systems for device operation, safety relays, and other similar electrical equipment. This building would interconnect with the main control room in the operations building for monitoring of the substation.

The substation must have access to communication systems in the area to comply with Federal Energy Regulatory Commission/California Independent System Operator/Utility monitoring and control requirements. Compliance may be accomplished by underground lines, aboveground lines, and or wirelessly. Existing road(s) would be used to the extent possible. At the substation, the generated electricity would be routed via a new gen-tie line internal to LFR A interconnecting via line tap to the existing DHSP 230-kV transmission line for delivery to the SCE 230kV Red Bluff substation.

Interconnection

The Project is in the California Independent System Operator (CAISO) queue cluster 13 and has an executed Power Purchase Agreement. The proposed interconnection for the Project is via a line tap on the existing DHSP 230kV transmission line and will have a point of interconnection (POI) at SCE's 230-kV Red Bluff substation. SCE's substation equipment has been approved by the Public Utilities Commission. The Project has an executed Engineering, Design & Procurement agreement with SCE and expects to have a fully executed Large Generator Interconnection Agreement by the third quarter of 2024.

Operations and Maintenance Facility and Storage Building

The Project includes an O&M building. The O&M building would be up to 3,600 square feet and would be set on concrete slab-on-grade that would be poured in place within the solar site area. The O&M building would be up to 24 feet in height and would contain a backup generator and a propane tank for emergency use or in the event of a blackout. The O&M building would consist of staff offices, restrooms, a break room, meeting rooms, and an office supply storage area and would include an HVAC system. A septic system would be located at the O&M building to serve sanitary wastewater treatment needs. Employee parking would be provided adjacent to the O&M building in accordance with Section 18.12, Off-Street Vehicle Parking of Riverside County Ordinance No. 348 (County of Riverside 2023). The O&M building would also include the installation of a water tank to provide a sufficient water reservoir for fire safety as required by the Riverside County Fire Department. The size of the water tank is pending confirmation from the Riverside County Fire Department.

Detention/Retention Basin

To meet current Riverside County site development requirements, a detention/retention basin or basins maybe required, depending on the change in hydrological conditions on site and, if necessary, based on an engineering-level hydrological assessment for the site at the base of each solar array block for stormwater management. The required storage would be provided via shallow ponding at the downstream limit of the sub-basin(s).

Supervisory Control and Data Acquisition System (SCADA)

The SCADA system is critical to proper operations and maintenance of the Project and utilizes propriety software, a fiber optic transmission system, a telephone, radio and/or microwave communications network, and/or other of means of communication such as radio-links or phase loop communication systems. The SCADA system functions as a remote start, stop, reset, and tag out for facility, thus minimizing the manpower required to monitor site diagnostic information generated from the Project panels. The SCADA system would also control the Project substation allowing for fully centralized operation of the Project to meet all California Independent System Operator and utility interconnection requirements.

The SCADA system for the Project would be implemented via new fiber optic cabling. The new fiber optic cabling would connect from the Project substation along the new transmission poles into the existing DHSP top strung fiber optic cable which then runs to the SCE Red Bluff substation.

Redundant Communication

Per SCE requirements, the Project would also require a secondary (redundant) communications path that would be installed as a new under hung fiber optic cable (i.e., a second cable hung under the transmission lines on the same poles) described below.

Fiber optic cabling would be added on the new transmission poles to the line tap location at the DHSP transmission line. From there it would connect to the redundant fiber optic cable to be strung from the operational DHSP substation to SCE's 230-kV Red Bluff substation on existing poles under the existing transmission lines. Fiber optic communication would involve an upgrade to the DHSP SCADA system. Due to the Project's sharing of DHSP transmission line poles, the upgraded DHSP SCADA system would serve both projects. Upgrades to the DHSP SCADA system would be performed under existing authorizations for the DHSP (CACA-044919) and Biological Opinion (FWS-ERIV-10B0593-12F0411). Ground disturbance associated with fiber cabling installation would be restricted to the DHSP authorized ROW and contained within previously disturbed areas to the greatest extent practicable.

In accordance with Western Electricity Coordinating Council (WECC) requirements, 30 feet of separation must be maintained between the fiber optic lines to meet the redundancy requirement. Thus, up to three monopoles would be installed off the DHSP transmission line to connect the new under hung fiber optic cables to one of two existing SCE point of change of ownership (POCO) manholes at the SCE Red Bluff substation. These new poles off the existing line would be required in order to maintain the required 30 feet of separation, which requires the two fiber optic lines to enter two different POCO manholes. The fiber optic cabling will extend from the existing DHSP transmission line poles to up to three new poles before entering an existing POCO manhole within the Red Bluff substation. These up to three new poles would be less than 50 feet high and only service the under hung fiber line. Typical spans between these poles would be 200 to 300 feet. The tower foundations for the fiber optic cable would require ground disturbance to a depth of 20 to 30 feet and a work radius of 45 to 60 feet.

Alternatively, redundant communication to the Red Bluff substation could be accomplished using microwave technology, which would include construction of an on-site microwave/ communication tower (co-located within the substation footprint), which would include a 6-foot-high (circumference) performance microwave dish fixed to a steel monopole of up to 90 feet in height. A 12-foot by 20-foot equipment shelter would also be included within a fenced area. The shelter would have a maximum height of 8 feet. The area would be secured by a chain link fence (up to 8 feet high) with up to three strands of barbed wire for a total maximum height of 11 feet.

Meteorological Station

The solar meteorological station (met station) is used to measure irradiance (amount of solar resource), temperature, wind speed, precipitation, ground reflected irradiance (albedo), and other meteorological measurements. The station is autonomous and powered by a solar module and batteries with communication via cellular modem—thus, no utility or other services are needed to support the station. Met station height would be approximately 8 feet; it would be sited within the substation footprint. Total footprint of the met station would measure approximately 25 by 25 feet.2.3.2 Linear Facility Routes (BLM Land)

As stated previously, the Project would include a 230-kV gen-tie line alignment, access roads, and collector line routes, collectively referred to as "Linear Facility Routes" or "LFRs." The LFRs are located on federal public lands administered by the BLM and designed to support the Project, which is located on adjacent private lands.

The proposed LFRs are not located within a BLM Renewable Energy Corridor but are primarily located in a DRECP designated DFA and would connect to the existing DHSP 230-kV transmission line.

The two proposed LFRs are described below and shown on Figure 2-1.

Linear Facility Route A. Located toward the northwest corner of the Project site, LFR A would provide access from Kaiser Road, and routes for transmission lines and associated infrastructure. This LFR would be up to 150 feet wide and 1.74 miles long. This LFR would include a 230 kV gen-tie line to interconnect with the existing DHSP 230-kV transmission line. This LFR would also support ancillary facilities such as poles, electrical lines, access road, spur roads, temporary pulling and tensioning stations, and other associated infrastructure. LFR A would be mostly new disturbance.

Linear Facility Route B (comprised of segments B_1 and B_2). Located toward the east side of the Project site, LFR B would be up to 75 feet wide and approximately 0.72 miles long. LFR B consists of two segments including B_1 and B_2. LFR B_1 is approximately 0.38 miles long and LFR B_2 is approximately 0.34 miles long. LFRs B1 and B2 are separated by private lands included as part of the Project as shown on Figure 2-1.

LFR B would provide access from California SR-177/Rice Road. LFR B would include an access road, as well as support underground collection lines. LFR B follows an existing disturbed route, which would require some additional improvement and possible expansion to meet the needs of the Project.

Table 2-2 provides a summary of the Project components that could be located within the two proposed LFRs.

Table 2-2. Project Components to Be Located Within Linear Facility Routes

Linear Facility Route	230-kV Gen-Tie Line	Access Road	Aboveground Electrical Lines, Spur Roads, Temporary Pulling and Tensioning Stations, and Fiber Optic Lines	Underground Collector Lines	12-kV Distribution Line
Linear Facility Route A	✓	✓	✓		●
Linear Facility Route B		✓		✓	

Notes:
✓ = Facilities that will be located in Linear Facility Route.
● = Facilities that may be located in Linear Facility Route.

230-kV Gen-tie Line

The gen-tie line would be located within LFR A within the requested 150-foot ROW width. The gen-tie line would connect to via a line tap on to the existing DHSP 230-kV transmission line for delivery to the SCE transmission system.

Site Access Roads

Main access to the project site as well as access to the gen-tie line, distribution line, and gen-tie pole structure sites would be required during construction and for the long-term maintenance of the gen-tie line and distribution line. Main access would be provided through LFR A, via Kaiser Road, an existing County-maintained paved road. Existing paved and unpaved roads would be used to the extent practical, to transport material and equipment to and from the locations within the ROW.

The access roads within LFR A is proposed to be up to a 24-foot-wide compacted soil road with 5-foot shoulders on either side. The access road within LFR B would have the same dimensions and serve as a secondary access road for emergency services, per County Fire Requirements.

After Project construction, these permanent site access roads would be used by maintenance crews and vehicles for inspection and maintenance purposes.

Above Ground Electrical Lines, Spur Roads, and Temporary Pulling and Tensioning Stations

Steel monopoles would be less than 200 feet would be used for the 230-kV gen-tie line. Typical spans between poles would be 900 to 1,100 feet. Self-weathering nonreflective steel would be used, which is intended to blend with the surrounding mountains. The tower foundations for the gen-tie line would require ground disturbance to a depth of 20 to 30 feet and a work radius of 45 to 60 feet. All fiber-optic communication lines necessary to support the on-site telecommunication equipment would be located on the same poles used to support the gen-tie line and/or buried in the maintenance road. Spur roads, approximately 24 feet wide, would be constructed to provide access to each transmission pole. The spur roads would be unpaved dirt roads and would be located within the 150-foot-wide LFR A.

Approximately five temporary construction pull-sites for purposes of stringing the 230-kV gen-tie line would be required. The number of temporary construction pull-sites may change pending final design of the gen-tie line.

12-kV Distribution Line

A 12-kV distribution line would be constructed to provide permanent power to the O&M building (if on site), back-up power to the on-site electrical substation, and potentially temporary power during construction. The 12-kV distribution line would be installed as an overhead or underground line. If installed as an overhead line, the 12-kV distribution line would include new wood poles. The 12-kV distribution line would extend from the existing SCE distribution site and may be located within LFR A. The 12-kV distribution line is anticipated to be installed by SCE. The alignment of the 12-kV distribution line and point of interconnection with the on-site electrical substation and O&M building (if on site) is pending approval by SCE.

2.4 Construction Activities

The following sections provide detail about the timeline and process for construction of the Project. Once construction is complete, the Project would be in operation for approximately 39 years.

2.4.1 Construction Schedule and Workforce

The construction of the Project would begin once all applicable approvals and permits have been obtained. It would take approximately 12 to 18 months from the start of construction to completion of the Project.

The construction schedule would have nine distinct phases, some of which will overlap. The phases, duration of each phase, and equipment needed for each phase are identified below in Table 2-3, below.

Table 2-3. Construction Activity, Duration, and Equipment

Activity	Duration (months)[1]	Equipment
Phase 1: Mobilization	1	Forklifts Generator sets Graders Off-highway trucks Carts/ATVs Rollers Rubber-tired dozers Scrapers Skid Steer Tractors/loaders/backhoes Trenchers Track Dozer
Phase 2: Site Preparation & Grading	4	Graders Off-highway trucks Other construction equipment Carts/ATVs Rollers Rubber-tired dozers Scrapers Skid Steer Track Dozers Tractors/loaders/backhoes
Phase 3: Access Road Improvements, if needed	2	Graders Off-highway trucks Other construction equipment Carts/ATVs Rollers Rubber-tired dozers Scrapers Skid Steer Track Dozers

Table 2-3. Construction Activity, Duration, and Equipment

Activity	Duration (months)[1]	Equipment
Phase 4: Generation Tie Line Construction and SCADA System	4	Aerial lifts Cranes Crawler tractors Forklifts Generator sets Off-highway trucks Carts/ATVs Tractors/loaders/backhoes Skid Steer Track Dozers Chain Saws Chippers
Phase 5: Internal Roads Construction	2	Graders Off-highway trucks Carts/ATVs Rollers Tractors/loaders/backhoes Skid Steer Track Dozers
Phase 6: Electrical Substation, and Microwave Tower Construction	3	Aerial lifts Cranes Forklifts Off-highway trucks Carts/ATVs Tractors/loaders/backhoes Trenchers
Phase 7: Solar Array Structural, Underground and Panel Installation, Battery Storage	12	Forklifts Generator sets Off-highway trucks Carts/ATVs Rollers Skid steers Post drivers Tractors/loaders/backhoes Trenchers
Phase 8: PV and Battery Storage Commissioning[2]	2	Trucks
Phase 9: Project Finalization[2] (Commercial Operation)	1	Trucks

Notes:
[1] Some phases of construction may occur concurrently; therefore, the duration months are not additive.
[2] Phases 8 and 9 would use much less equipment because the majority of the solar facility would have been installed by this point.

The typical construction work schedule is expected to be from Monday through Friday between 6:00 a.m. and 6:00 p.m. However, to meet schedule demands or to reduce impacts, it may be necessary to work early mornings, evenings, or nights and on weekends during certain construction phases.

The work schedule may be modified throughout the year to account for changing weather conditions (e.g., changing to nightwork in the summer months to avoid work during the hottest part of the day for health and safety reasons). If construction work takes place outside these typical hours, activities would comply

with Riverside County standards for construction noise levels (Ordinance 847) (County of Riverside 2007). The Project would use restricted nighttime lighting during construction. Lighting would include only what is needed to provide a safe workplace, and lights would be focused downward, shielded, and directed toward the interior of the site to minimize light exposure outside the construction area.

The construction workforce would average 150 employees with a maximum daily workforce of 250 employees. The construction workforce would be recruited from within Riverside County and elsewhere in the surrounding region to the extent practicable.

2.4.2 Pre-construction Activities

Geotechnical Study

A detailed geotechnical desktop evaluation has been prepared for the Project (Appendix B). The study evaluated geologic and geotechnical conditions for the Project site through review of published and non-published reports, aerial photographs, in-house data, and the assessment of the potential geologic hazards in the Project area. The study evaluated the potential for existing environmental impacts related to geologic or soils conditions to affect the Project, and discussed measures that could be implemented to reduce or mitigate the potential impacts with respect to the design and construction of the Project (Appendix B).

Surveying

Surveying includes two main objectives: (1) obtaining detailed topographic information for supporting the stormwater modeling and grading design and (2) construction layout surveying with staking. The Project would develop detailed topographic information for the Project site using photogrammetry and field cross sections. Concurrent with the acquisition of topographic data, aerial photographs would be obtained and analyzed to determine changes in land use and stream channel configurations. The final site plan for the Project would be based on the detailed topographic survey of the site that is performed as a part of the permitting and engineering design process.

Road corridors, buried electrical lines, PV array locations, and the locations of other facilities would be located and staked to guide construction activities.

Staking and Flagging

Preconstruction survey work would consist of staking and flagging the following: (1) ROW and construction area boundaries, (2) work areas (permanent and short term), (3) cut and fill, (4) access and roads, (5) transmission structure centers, (6) foundation structure, and (7) desert tortoise or endangered plant avoidance areas, if any. Staking and flagging would be maintained until final cleanup.

2.4.3 Site Preparation and Grading

Site preparation activities include installing desert tortoise exclusion fencing and completing pre-construction clearance surveys, preparing, and constructing site access roads, establishing temporary construction trailers and sanitary facilities, and preparing construction staging areas. Mobilization would include bringing construction equipment to the sites prior to start of construction.

Vegetation Removal/Clearing

Vegetation would not be removed from the Project site until the onset of a given construction activity. When practical, the Applicant would minimize vegetation removal for the Project. When feasible, construction activities would implement drive and crush rather than grading. Construction equipment would drive over and crush native plants to minimize impacts to the roots of desert shrubs. Drive and crush is expected to reduce the recovery time of desert shrubs within the temporary construction areas. Mowing and/or trimming would be implemented when possible.

Grading

At a minimum grading would be required for major access roads, the inverter pad locations, transmission tower foundations, internal roadways, and work areas. In addition, grading would be required for all ancillary facilities, including the O&M building, parking area, water storage facility, septic field, laydown area, and substation and BESS yard.

Within the solar site, where there are areas where drive and crush is not feasible, the Applicant proposes to use site preparation techniques where feasible that would minimize the required volume of earth movement, including a "disc and roll" technique that uses equipment to till the soil over much of the solar facility site and then roll it level, as well as "micrograding" or "isolated cut and fill and roll" of other areas of the site to trim off high spots and use the material to fill in low spots. However, there is potential that large areas of the site may need to be graded if conditions require.

Vegetation would be allowed to re-grow within the solar panel field to the extent that it does not interfere with the panels themselves, by growing into electrical connections and creating a fire hazard or disrupting the panel's performance. However, this is relatively unlikely given the shading the panels would be providing on the soil. Vegetation height will be limited (if required) to comply with Riverside County Fire Department requirements. The access roads would be kept clear of vegetation through the use of targeted herbicide spraying, occasional scarifying, or weeding to reduce fire hazard and allow access to the panel arrays.

Water

Construction water would be used primarily for dust control and soil compaction, with minor amounts for sanitary and other purposes Construction water use is expected to be between 100 acre-feet and 300 acre-feet total for the anticipated 12- to 18-month construction period. The majority of the construction water use is anticipated to occur during site grading. During construction, restroom facilities would be provided by portable units to be serviced by licensed providers.

The Project's water needs would be met by use of groundwater pumped from on- or off-site wells or purchased from a local water purveyor.

Temporary construction wells, if any, would be decommissioned upon the completion of construction unless required for an on-site O&M building and capped per applicable regulations.

The average total annual water usage during operation is estimated to be up to 9 acre-feet per year for the assumed 39 years of operation. Water use during operations would be primarily for panel washing, restrooms, and general maintenance activities.

2.4.4 Solar Module Electrical Construction Activities

Underground cables to connect panel strings would be installed using ordinary trenching techniques, which typically include a rubber-tired backhoe excavator or trencher. Wire depths would be in accordance with local,

state, and federal requirements, and would likely be buried approximately 3 feet below grade by excavating a trench approximately 3 to 6.5 feet wide to accommodate the conduits or direct buried cables. After excavation, cable rated for direct burial or cables installed inside a polyvinyl chloride conduit would be installed in the trench, and the excavated soil would likely be used to fill the trench and lightly compressed.

All electrical inverters and the transformer would be placed on concrete foundation structures or steel skids. Commissioning of equipment would include testing, calibrating equipment, and troubleshooting. The substation equipment, inverters, collector system, and PV array systems would be tested prior to commencement of commercial operations. Upon completion of successful testing, the equipment would be energized.

Certified electricians in the construction workforce would perform appropriate electrical construction activities starting with combiner box connections. Utility journeymen may be required to perform or supervise the higher-voltage electrical construction activities for the on-site substation and gen-tie line.

2.4.5 230-kV Gen-Tie Line and SCADA Construction

Pre-construction activities for the gen-tie line, SCADA, and associated infrastructure would consist of surveying and marking the ROW and structure locations and mobilizing equipment and materials.

The main site access road would be utilized to access and maintain the gen-tie line and SCADA facilities. Existing paved and unpaved roads including the existing DHSP and SCE Red Bluff substation access roads would be used to the extent practical, to transport material and equipment for the SCADA facilities. The main access road would also contain the gen-tie line and is proposed to be up to a 24-foot-wide compacted soil road with 5-foot shoulders on either side.

As previously discussed, the 12-kV distribution line may also be located within LFR A.

Vegetation clearing and ground disturbance would be required at each gen-tie line structure site and at the three monopoles that would be installed off the existing DHSP transmission line to support the fiber optic transmission communication line option extending from the existing DHSP transmission line poles to the Red Bluff substation. Ground disturbance associated with fiber cabling installation would be restricted to the DHSP authorized right-of-way and contained within previously disturbed areas to the greatest extent practicable.

Vegetation clearing and ground disturbance would be required to excavate tower holes and pour concrete foundations. Vegetation would be cleared as required to install the structure and structural foundations. An estimated 40-foot radius of temporary disturbance would be required per pole structure. The gen-tie line structures would be located within LFR A and would be up to 150 feet wide.

The tower foundations for the gen-tie line structures and the three monopoles to support the fiber optic transmission line would require ground disturbance to a depth of 20 to 30 feet. Foundation excavations would be made using mechanized equipment, with the poles requiring one to four holes, 6 to 12 feet in diameter. Structure foundations would be excavated with a vehicle-mounted power auger or backhoe. In rocky areas, the foundation holes would be excavated by drilling.

Foundations would be installed by placing reinforced steel and structure steel components into each foundation hole, positioning the steel components, and encasing them in concrete. Excess spoil material would be used for fill where suitable. The foundation excavation and installation activities would require access to the site by a power auger or drill, a crane, material trucks, and ready-mix concrete trucks.

Water would be used for soil compaction and dust abatement at each structure site and along access roads. Water for footer compaction and dust abatement would be obtained from on-site wells or off-site water sources and trucked to each construction location.

After the structures are erected, insulators, hardware, and stringing sheaves would be delivered to each structure site. The structures would be rigged with insulator strings and stringing sheaves at each ground wire and conductor position.

Tensioners, line trucks, wire trailers, and tractors needed for stringing and anchoring the ground wire or conductor would be necessary at each tensioning site. The tensioner, in concert with the puller, would maintain tension on the shield wires or conductors while they are pulled through the structures. The pulling site would require approximately half the area of the tension site. A puller, line trucks, and tractors needed for pulling and temporarily anchoring the shield wires, optical ground wire, and conductor would be necessary at each pulling site. There would be no blading at pull sites if the terrain is sufficiently level.

2.4.6 Restoration

After construction is completed, relatively minimal O&M activities are required during operations. Access roads and aisle ways would need to be maintained, but the areas covered by panels may support some revegetation.

At the end of the Project's useful life, the Applicant would decommission the facilities and may remove aboveground facilities, including the PV arrays and supporting electrical and facility systems. Following facility decommissioning and removal, the area would be reclaimed per applicable regulations in effect at the time of decommissioning.

2.4.7 Construction Access and Traffic

During construction, an average of 150 workers per day would commute to the Project site, with a maximum of 250 workers during peak construction. The peak number of construction-related automobile trips would be up to 608 one-way trips per day. It is estimated that one-way trips would be approximately 48 to 60 miles, dependent on where workers reside (assumed to be either Blythe or Palm Desert).

All materials for the Project's construction would be delivered by truck. Most truck traffic would occur on designated truck routes and major streets. Construction traffic would include periodic truck deliveries of materials and supplies, recyclables, trash, and other truck shipments, and construction worker commuting vehicles. Most construction equipment and vehicles would be brought to the sites at the beginning of the construction process during construction mobilization and remain on site throughout the duration of the construction activities for which they were needed. Generally, the equipment would not be driven on public roads while in use for the Project.

The number of truck deliveries expected over the Project's construction period would average approximately 6 to 96 one-way truck trips per day. Construction truck deliveries and shipments would typically avoid the peak traffic hours in the morning and evening. Materials would typically be delivered starting a few weeks before the start of the associated task, apart from electrical gear, which would be shipped prior to installation. It is estimated that distances for a single truck round trip would average approximately 43 miles for local deliveries, approximately 380 miles for each round trip for deliveries from the Port of Los Angeles or the Port of Long Beach, and approximately 1,400 miles from the United States/Mexico border crossing at Nuevo Laredo, Texas, or other locations in the state of Texas. Local deliveries would include deliveries for project materials such as mulch and water trucks. Deliveries from the Port of Los Angeles would include project materials such as solar panels, solar array structures, gen-

tie poles, and substation components. Deliveries from the United States/Mexico border crossing at Nuevo Laredo, Texas, or other locations in the state of Texas would include batteries for the BESS and potentially U.S. made solar panels. All construction-related traffic would be temporary and short term and would be removed from the roadway network upon completion of the Project.

The construction vehicles used on site per phase are presented in Table 2-4.

Table 2-4. Off-Road Equipment Required during Project Construction

Project Phase	Equipment Type	Number of Pieces	Hours per Day
Mobilization	Forklifts	4	8
	Generator Sets	4	8
	Graders	4	8
	Off-Highway Trucks	7	8
	Carts/ATVs	6	8
	Rollers	2	8
	Rubber Tired Dozers	2	8
	Scrapers	2	8
	Tractors/Loaders/Backhoes	4	8
	Trenchers	2	8
New Access Road Construction	Graders	4	8
	Off-Highway Trucks	7	8
	Other Construction Equipment	2	8
	Carts/ATVs	2	8
	Rollers	4	8
	Rubber Tired Dozers	3	8
	Scrapers	3	8
Generation Tie Line Construction and SCADA System	Aerial Lifts	3	8
	Cranes	3	8
	Crawler Tractors	2	8
	Forklifts	2	8
	Generator Sets	2	8
	Off-Highway Trucks	3	8
	Carts/ATVs	2	8
	Tractors/Loaders/Backhoes	3	8
Internal Roads Construction	Graders	3	8
	Off-Highway Trucks	5	8
	Carts/ATVs	2	8
	Rollers	3	8
	Tractors/Loaders/Backhoes	3	8
Electrical Substation, and Microwave Tower Construction	Aerial Lifts	3	8
	Cranes	2	8
	Forklifts	2	8
	Off-Highway Trucks	2	8
	Carts/ATVs	2	8
	Tractors/Loaders/Backhoes	5	8
	Trenchers	5	8
Site Preparation and Grading	Graders	4	8
	Off-Highway Trucks	7	8
	Other Construction Equipment	3	8
	Carts/ATVs	6	8
	Rollers	4	8
	Rubber Tired Dozers	4	8

Table 2-4. Off-Road Equipment Required during Project Construction

Project Phase	Equipment Type	Number of Pieces	Hours per Day
	Scrapers	3	8
	Tractors/Loaders/Backhoes	4	8
Solar Array Structural, Underground and Panel, O&M facility and storage building, and Battery Installation	Forklifts	6	8
	Generator Sets	11	8
	Off-Highway Trucks	5	8
	Carts/ATVs	9	8
	Rollers	2	8
	Skid Steers	9	8
	Post Drivers	11	8
	Tractors/Loaders/Backhoes	2	8
	Trenchers	5	8

Construction Waste and Hazardous Materials

Construction of the Project would involve the use of some hazardous materials, such as fuels and greases for construction equipment. Such substances may be stored in temporary aboveground storage tanks or sheds located on the Project site. The fuels stored on site would be in a locked container within a fenced and secure temporary staging area.

The small quantities of chemicals to be stored at the Project site during construction include equipment and facilities maintenance chemicals. These materials would be stored in their appropriate containers in an enclosed and secured location such as portable outdoor hazardous materials storage cabinets equipped with secondary containment to prevent contact with rainwater. The portable chemical storage cabinets may be moved to different locations around the site as construction activity locations shift. The chemical storage area would not be located immediately adjacent to any drainage. Disposal of excess materials and wastes would be performed in accordance with local, state, and federal regulations; excess materials/waste would be recycled or reused to the maximum extent practicable.

If quantities exceed regulatory thresholds, the Project will ensure that storage is undertaken in compliance with the Project's Spill Prevention, Control, and Countermeasure Rule and the Hazardous Materials Business Plan. The use, storage, transport, and disposal of hazardous materials used in construction of the facility would be carried out in accordance with federal, state, and county regulations. No extremely hazardous substances are anticipated to be produced, used, stored, transported, or disposed of during construction. Safety Data Sheets for all applicable materials would be made readily available to on-site personnel. Construction materials would be sorted on site throughout construction and transported to appropriate waste management facilities. Recyclable materials would be separated from non-recyclable items and stored until they could be transported to a designated recycling facility.

In accordance with the 2019 California Green Building Standards Code (CCR Part 11, Title 24; CBSC 2019), Riverside County Waste Recycling Program states that construction projects, such as this Project, must recycle, reuse, compost, and/or salvage a minimum of 65% by weight of the construction and demolition (C&D) waste generated on site. Projects that require a building permit and will generate C&D waste within Riverside County are required to complete a Waste Recycling Plan (Form B) prior to issuance of the permit, which identifies the expected material types and locations for recycling of wastes, and a Waste Reporting Form (Form C) upon project completion and prior to final inspection, to demonstrate actual quantity of C&D waste diverted (Riverside County Department of Waste Resources 2022). Wooden construction waste (such as wood from wood pallets) would be sold, recycled, or chipped and composted. Some non-

hazardous wastes can be reused or recycled, such as asphalt, which can be crushed and used as fill, or metal, which can be recycled. Non-hazardous construction materials that cannot be reused or recycled would likely be disposed of at municipal county landfills. Landfilled wastes would not exceed 35% of the total C&D waste generated. Hazardous waste and electrical waste would be transported to a hazardous waste handling facility (e.g., electronic-waste recycling). As required by the C&D Diversion Program, and as outlined on Form B – Waste Recycling Plan, all contractors and workers would be educated about waste sorting, appropriate recycling storage areas, and how to reduce landfill waste, and the project site would be equipped with the appropriate equipment, space, and bins for properly sorting wastes for recycling, reuse, or disposal.

2.5 Operation and Maintenance

2.5.1 Operation and Maintenance Activities

Maintenance activities generally include road maintenance; vegetation management; scheduled maintenance of inverters, transformers, and other electrical equipment; and occasional replacement of faulty modules or other site electrical equipment. The access roads would be regularly inspected, and any degradation due to weather or wear and tear would be repaired. The Project may apply a dust palliative on dirt access roads if indicated.

Washing of solar panels is expected to occur up to once annually. Water for on-site maintenance purposes would likely be sourced from up to three on-site wells, but if found to be of insufficient volume, water may be trucked from off site.

2.5.2 Operation and Maintenance Workforce

It is anticipated that operations and maintenance of the Project would require up to eight full-time and/or part-time workers to operate and maintain the plant, including performing daily visual inspections and minor repairs. Water required for O&M may be provided by on-site wells, purchased, and trucked in from off site and stored in storage tanks, or a combination of these sources. Water storage tanks would be installed if required by the Riverside County Fire Department. Potable water would be brought to the site in water bottles or as a potable water service delivery. The O&M workforce would generate small amounts of sanitary wastewater that would be handled by an on-site septic system and leach field. Only limited deliveries would be necessary for replacement PV modules, BESS, and equipment during operations.

Overall, minimal maintenance requirements are anticipated. Maintenance and other operational staff would use standard size pickup trucks and vehicles.

2.5.3 Site Security During Operation

The Project facility would have either an on-site or off-site O&M facility and be monitored by on-site O&M personnel and/or remotely by the Applicant or an affiliated company. The Project security fence maybe be 8 feet high and have an overall height of no more than 12 feet from the bottom of the fabric to the top barbed wire. The fencing would be designed for appropriate wildlife protection, based on consultation with state and federal wildlife agencies. Should the security system detect the presence of unauthorized personnel, an on-call security representative may be dispatched to the facility, and appropriate local authorities would be notified. A Knox-Box containing keys for the Project would be installed to permit emergency access to the site.

2.5.4 Vegetation Treatment and Weed Management

Continued weed management in cleared areas would be maintained through regular monitoring and targeted application of the herbicide to be approved by Riverside County and applied in accordance with the manufacturer's recommendations. Weed control activities would include non-mechanical, mechanical, and herbicide control methods. Manual non-mechanical means of vegetation management would be limited to the use of hand-operated power tools and hand tools to cut, clear, or prune species. Hand-operated tools such as hoes, shovels, and hand saws could be used under the program, as well as hand-pulling of plants. Mechanical control activities, such as chaining, disking, grubbing, and mowing using tractors or other heavy equipment, may also be used. The access roads would be kept clear of vegetation with targeted herbicide spraying, occasional scarifying, or weeding to reduce fire hazard and allow access to the panel arrays.

Invasive, nonnative, and/or noxious weeds would be controlled per the terms of the Project's Weed Management Plan. The Project would comply with existing BLM plans and permits, including the Vegetation Treatments Using Herbicides (BLM 2007a, 2007b) and Vegetation Treatment Using Aminopyralid, Fluroxypyr, and Rimsulfuron (BLM 2016b).

2.5.5 Water During Operation and Maintenance

During the operations phase, water would be required for panel washing and maintenance and for the restroom facilities at the O&M building. During operations, wastewater would be generated from bathroom facilities located within the O&M building (if on site). Domestic wastewater would be treated and disposed at the site using a septic disposal system consisting of septic tanks and leach field and permitted through the Riverside County Department of Environmental Health.

Water would be used for cleaning of the solar PV panels. It is anticipated that the solar PV panels would be washed annually to ensure optimum solar absorption by removing dust particles and other buildup. No wastewater requiring treatment would be generated during panel washing as water would be absorbed into the surrounding soil or evaporate.

Water required for O&M may be provided by on-site wells, purchased, and trucked in from off site and stored in storage tanks, or a combination of these sources. Water storage tanks would be installed if required by the Riverside County Fire Department. Potable water would be brought to the site in water bottles or as a potable water service delivery.

2.5.6 Hazardous Materials and Waste

Limited amounts of hazardous materials would be stored or used on the site during operations; these materials may include diesel fuel, gasoline and motor oil for vehicles, mineral oil to be sealed within the transformers, and lead acid-based and/or lithium-ion batteries for emergency backup. Appropriate spill containment and cleanup kits would be maintained during Project operations.

Additionally, the Project would produce a small amount of hazardous waste associated with maintenance activities, which could include broken and rusted metal, defective or malfunctioning modules, electrical materials, unused paint, solvents, cleaners, waste oil, oily rags, and batteries. Workers would be trained to properly identify and handle all hazardous wastes. As noted above, hazardous waste would be either recycled or disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous waste shipped off site for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler and disposed of at an approved location.

2.5.7 Fire Safety

There is limited potential for wildfire at the Project site. Vegetation is sparse, thus fire risk from vegetation is minimal. The Project would coordinate with BLM, Riverside County Fire Department, and other applicable jurisdictions as appropriate to define measures to control the risk of fire. During operations, one or more aboveground water storage tank(s) would be installed adjacent to the O&M facility if required by Riverside County Fire Department. The tank(s) would be sized to meet the County requirements to supply sufficient fire suppression water during operations. Additional fire protection measures within the O&M building may include sprinkler and fire suppression systems. The systems would be compatible with the building's electrical system. Furthermore, there would be portable carbon dioxide fire extinguishers mounted at the power conversion system units.

Project facilities would be designed, constructed, and operated in accordance with applicable fire protection and other environmental, health, and safety requirements. Effective maintenance and monitoring programs are vital to productivity as well as to fire protection, environmental protection, and worker protection.

The Project's Fire Prevention and Safety Plan would be updated prior to construction and again prior to operation. The plan would comply with applicable BLM and Riverside County regulations and would be coordinated with the Riverside County Fire Department.

2.6 Decommissioning

The Project has an anticipated operational life of 39 years, after which the Project proponent may choose to update site technology and seek an extension of the CUP and PUP to recommission the Project, or to decommission the site and remove the systems and their components. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, state, and County regulations. Because the PV arrays' supporting equipment would sit on the surface of the land, the land would be largely unaltered from its natural state when the arrays are removed after the Project's lifetime. The Applicant would work with the County to put an agreement in place to ensure the decommissioning of the Project site after its productive lifetime. The Project would use BMPs to ensure the collection and recycling of materials and to avoid the potential for modules and batteries to be disposed of as municipal waste.

2.7 Federal, State, and Local Entitlements That May Be Required

The anticipated approvals needed for the Project include a BLM ROW Grant for the two LFRs, Conditional Use Permit, and a Public Use Permit from Riverside County. These and additional state, local, and federal entitlements that may be required are described in Table 2-5.

Table 2-5. Permits and Approvals for the Project

Agency Type	Agency Name	Permit	Applicability
Federal	Bureau of Land Management	Right-of-Way Grants	For use of federal land for the LFRs
Federal	Bureau of Land Management	National Environmental Policy Act (NEPA)	To be used by BLM (NEPA lead agency) to evaluate the environmental effects of constructing, operating, maintaining, and decommissioning the LFRs.

Table 2-5. Permits and Approvals for the Project

Agency Type	Agency Name	Permit	Applicability
Federal	United States Fish and Wildlife Service	Biological Opinion or Concurrence	Determination whether the LFRs would jeopardize existence of federal listed endangered or threatened species, and if necessary, issue an Incidental Take Statement authorizing incidental "take" of the listed species.
Federal	U.S. Army Corps of Engineers	Clean Water Act (CWA), Section 404 Jurisdictional Determination	Determination of whether the Project includes waters of the United States subject to federal jurisdiction under Section 404 of the Clean Water Act.
Federal	U.S. EPA	Hazardous Waste ID Number	EPA ID No. and register as a Hazardous Waste Generator with Department of Toxic Substance Control (if required)
State or Regional	State Historic Preservation Office (SHPO)	National Historic Preservation Act (NHPA) Section 106 Review (36 CFR 800)	Determination of whether the Project contains cultural resources listed on or eligible for listing on the National Register of Historic Places.
State or Regional	California Department of Fish and Wildlife	Incidental Take Permit	For compliance with Section 2081 of the California Endangered Species Act (if required)
State or Regional	California Department of Transportation, District 8	Right-of-Way Encroachment Permit	Encroachment permit would be required along SR-177/ Rice Road
State or Regional	California Department of Transportation, District 8	Oversize/ Overweight Vehicle Transportation Permit	Transport of Oversized Loads
State or Regional	Regional Water Quality Control Board, Region 8	401 Water Quality Certification	Certification required if the Project may result in a discharge to waters of the United States (if required)
State or Regional	California Department of Fish and Wildlife	Section 1602 Streambed Alteration Agreement	Authorization allowing disturbance of state jurisdictional streambeds, if required
State or Regional	Regional Water Quality Control Board, Region 8	National Pollutant Discharge Elimination System Construction General Permit	For construction activity equal to or greater than 1 acre that may result in a discharge to waters of the United States
State or Regional	Regional Water Quality Control Board, Region 8	General Waste Discharge Requirements	For activities, discharges, or proposed activities or discharges from a property or business that could affect California's surface, coastal, or ground water

Table 2-5. Permits and Approvals for the Project

Agency Type	Agency Name	Permit	Applicability
State or Regional	South Coast Air Quality Management District (SCAQMD)	Authority to Construct and Permit to Operate	For construction and operations of the Project and for the facility backup generator permits for Project operations
State or Regional	South Coast Air Quality Management District (SCAQMD)	Fugitive Dust Control Plan	SCAQMD requirement prior to construction
Local	Riverside County	Conditional Use Permit	Construction of the solar facility on private land under Riverside County jurisdiction
Local	Riverside County	Public Use Permit	Construction of the solar facility on private land under Riverside County jurisdiction
Local	Riverside County	Cancellation of Williamson Act Contract	Cancellation of Williamson Act contracts applicable to private parcels
Local	Riverside County	Removal from County Agriculture Preserve	Removal of private lands from Riverside County Agriculture Preserves
Local	Riverside County	California Environmental Quality Act (CEQA) EIR	To be used by Riverside County (CEQA lead agency) to evaluate the environmental effects of constructing, operating, maintaining, and decommissioning the Sapphire Solar Project.
Local	Riverside County	Development Agreement	As required by Riverside County's B-29 policy
Local	Riverside County	Construction (Building/ Grading Permit)	Riverside County authorizes construction activities under the master Construction Permit. This permit encompasses grading, building, electrical, mechanical, landscaping, and other activities. The County's review for compliance with ordinance standards is undertaken as part of this review.
Local	Riverside County	California Desert Native Plants Permit to Harvest Native Plants	Required if harvesting native succulents is planned within the Project area. Native succulents are sparsely distributed and mostly occur outside the agricultural lands near the western LFRs.
Local	Riverside County	Franchise Route Agreement (if required)	Franchise Route Agreement for use of Kaiser Road easement.

2.8 References

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Figure 2-1 Project Location

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Figure 2-2 DRECP Development Focus Areas

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Figure 2-3 Project and Other Solar Projects

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Figure 2-4 Riverside County General Plan - Land Use

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Figure 2-5 Riverside County Zoning

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Figure 2-6 Communication Towers

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3 Environmental Analysis

3.1 Introduction to Environmental Analysis

Chapter 3 evaluates the impacts that may result directly, indirectly, or cumulatively from the proposed Sapphire Solar Project (Project). This chapter also presents and applies criteria used for each environmental resource topic to determine whether an adverse impact is significant under the California Environmental Quality Act (CEQA), and describes potentially feasible mitigation measures, if any, that could substantially lessen or avoid significant impacts.

3.1.1 Introduction to Impact Analysis

This section provides an analysis of potential impacts on resource areas that could result in "significant impacts." Specifically, the environmental issue areas identified for further discussion include the following:

- Aesthetics
- Agriculture and Forest Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Paleontological Resources
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

Sections 3.2 through 3.22 discuss the environmental impacts that may result from the construction, operation, decommissioning, and cumulative impacts of the Project, and, where impacts may be significant or potentially significant according to the criteria identified, potentially feasible mitigation measures are identified to avoid or substantially lessen those impacts to the extent feasible. The following topics are also included in Sections 3.2 through 3.22.

Regulatory Framework

This section presents information on the laws, regulations, plans, and policies that relate to the issue area being discussed. Regulations originating from federal, state, and local levels are discussed. The information and data used to prepare the regulatory background were obtained from the same sources listed under Environmental Setting.

Environmental Setting

This section discusses the existing environmental conditions at the site and in the surrounding area as appropriate that are relevant to the issues under evaluation (the "baseline"), in accordance with Section 15125 of the CEQA Guidelines. The baseline conditions reflect the conditions around the time of the issuance of the Notice of Preparation and are used for comparison to establish the type and extent of the potential environmental impacts. For purposes of these discussions, the term "Project site" refers to both the proposed solar site (located on private land) and the two Linear Facility Routes (located on Bureau of

Land Management [BLM] land). The Project site includes the solar site components listed in Section 2.3, Project Components.

The information and data used to prepare the environmental setting were obtained from several sources, including the technical reports prepared for the Project, which include specific surveys and studies conducted for the Project; the California Desert Conservation Area Plan, as Amended; the Desert Center Area Plan; and the Riverside County General Plan. In addition, information was obtained from various BLM planning documents, research publications prepared by various federal and state agencies, and private sources pertaining to key resource conditions found in the area.

Impact Analysis

This section presents an assessment of the identified direct and indirect impacts and discloses the level of significance for each impact. A significant impact is defined under CEQA as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (CEQA Guidelines Section 15382). The CEQA Guidelines define direct impacts as those impacts that result from the project and occur at the same time and place. Indirect impacts are caused by the project but can occur later in time or farther removed in distance and are still reasonably foreseeable and related to the operation of the project.

A less-than-significant impact with mitigation applies where the incorporation of mitigation measures has reduced an effect from potentially significant to less than significant. A less-than-significant impact means that the project would not cause a potentially substantial adverse effect on the environment for that resource. No impact indicates that the impact does not apply to the project.

Methodology

This section describes the process of analyzing the effects of the Project. In assessing impacts, this Environmental Impact Report (EIR) presumes that existing regulations and other public agency requirements that have been incorporated into the Project will be implemented. This includes Conservation Management Actions required by the BLM Management Plan for the California Desert Conservation Area.

Criteria for Determining Significance

This 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 (14 CCR 15000–15387). Other federal, state, or local standards are considered when defining significance thresholds.

Cumulative Impacts

This section describes effects that may be individually limited but cumulatively considerable when measured along with other approved, proposed, or reasonably foreseeable future projects. Section 3.1.2, Cumulative Impact Scenario, provides a detailed discussion regarding the cumulative impact approach and scenario.

Mitigation Measures

This section identifies the actions to avoid or substantially lessen potentially significant impacts of the Project to the extent feasible. Existing regulations and other public agency requirements, best

management practices, and procedures that apply to similar projects are considered in determining what additional Project-specific mitigation may be required to reduce or eliminate impacts.

3.1.2 Cumulative Impact Scenario

This section describes effects that may be individually limited but cumulatively considerable when measured along with other approved, proposed, or reasonably foreseeable future projects. The following discussion explains the factors relied on to frame the cumulative impacts analysis in this EIR.

CEQA Requirements for Cumulative Impact Analysis

CEQA defines cumulative impacts as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts (14 CCR 15355; see also California Public Resources Code, Section 21083[b]). A cumulative impact consists of an impact that is caused as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts (14 CCR 15130[a][1]).

CEQA Guidelines Section 15130 requires that an EIR discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." Cumulatively considerable means that the incremental effects of an individual project are significant when viewed in connection with those of past projects, other current projects, and probable future projects (14 CCR 15065[a][3]).

According to Section 15130(b) of the CEQA Guidelines, the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great a level of 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 that do not contribute to the cumulative impact.

For purposes of this EIR, the 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.
- The cumulative effects of other past, current, and probable future projects without the Project are already significant and the Project's related incremental contribution to that condition would be cumulatively considerable and therefore significant. The standards used herein to determine whether the Project's incremental contribution is cumulatively considerable include the existing baseline environmental conditions and whether the Projects would cause a substantial increase in impacts or otherwise exceed an established threshold of significance.

Methodology for Cumulative Impact Analysis

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

- 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.

- Regional Growth Projections Method—A summary of projections contained in an adopted General Plan or related planning document, or in a prior environmental document that has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.

This EIR uses the list method.

Consistent with CEQA, the cumulative analysis uses a two-step approach. The first step determines whether the combined effects from the Project and other projects would be cumulatively significant. This was done by adding the Project's incremental impact to the anticipated impacts of other probable future projects and/or reasonably foreseeable development. Where the analysis determines that the combined effect of the projects and/or projected development would result in a significant cumulative effect, the second step evaluates whether the Project's incremental contribution to the combined significant cumulative impact would be cumulatively considerable as required by CEQA Guidelines Section 15130(a).

CEQA Guidelines Section 15064(h)(4) states that the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that a 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 a 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.

Cumulative Scenario

Geographic Scope

The geographic area affected by the Project and its potential to contribute to cumulative impacts varies based on the environmental resource under consideration. 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 Project site and the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects will often extend beyond the scope of the direct effects of a 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/nitrogen oxides and particulate matter) and therefore includes the entire air basin. Conversely, in the case of noise impacts, given the localized impact, a smaller area surrounding the immediate site is appropriate for consideration. 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 are:

- Aesthetics: All cumulative projects identified in Tables 3.1-1 and 3.1-2
- Agriculture and Forest Resources: Eastern Riverside County
- Air Quality: Mojave Desert Air Basin
- Biological Resources: Desert portion of Riverside County (Palm Springs to the Colorado River)
- Cultural Resources: All cumulative projects identified in Tables 3.1-1 and 3.1-2

- Energy: All cumulative projects identified in Tables 3.1-1 and 3.1-2
- Geology and Soils: Chuckwalla Valley
- Greenhouse Gas Emissions: Global
- Hazards and Hazardous Materials: 1-mile-radius area around the Project site
- Hydrology and Water Quality: USGS Chuckwalla Hydrologic Unit (i.e., watershed)
- Land Use and Planning: Eastern Riverside County
- Mineral Resources: All cumulative projects identified in Tables 3.1-1 and 3.1-2
- Noise: 1-mile-radius area around the Project site
- Paleontological Resources: 10-mile radius from the Project site
- Population and Housing: Populated areas within a 2-hour worker commute distance of the Project's site, which would extend out into the rest of Riverside County and into San Bernardino County
- Public Services: The service areas of each of the providers serving the Project
- Recreation: Recreational areas within a 20-mile distance from the Project area
- Transportation: Segments of I-10, near SR-177, and the segments of SR-177, near I-10
- Tribal Cultural Resources: Eastern Riverside County
- Utilities and Service Systems: The service areas of each of the providers serving the Project
- Wildfire: 2-mile-radius area around the Project site

Temporal Scope

This cumulative impact analysis considers other projects that are currently operational, under constructed, or are permitted (e.g., reasonably foreseeable). Both short-term and long-term cumulative impacts of the Project, in conjunction with other cumulative projects in the area, are evaluated in this section of each resource area analysis.

The schedule and timing of the 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 Project. This is a consideration for short-term impacts.

Cumulative Projects

Desert Center Area Plan. As part of the Riverside County General Plan Update (County of Riverside 2015a), the County updated the Desert Center Area Plan. The Desert Center Area Plan reflects the limited development potential in this region. The Desert Center Area Plan designates most of the area Open Space-Rural, with some Agriculture, rural residential, and other low-density residential and commercial opportunities. The Desert Center Area Plan notes that future development on the private land should focus on infill and contiguous expansion of the existing communities at Desert Center and Lake Tamarisk but is likely to be limited (County of Riverside 2015b). This information was taken into consideration by the authors when drafting the cumulative analysis as it indicates limited future development on private land is projected.

Tables 3.1-1 and 3.1-2 include the list of cumulative projects in the Desert Center region. Table 3.1-1 includes approved and operational projects. Table 3.1-2 includes proposed and future projects.[1] These projects are shown on Figure 2-3, Proposed Project and Other Solar Projects.

[1] BLM cumulative project list provided and confirmed on June 28, 2023 (Moore, pers. comm., 2023). Riverside County cumulative project list confirmed on March 31, 2023 (Wheeler, pers. comm., 2023).

Table 3.1-1. Permitted, Constructed, and Operational Projects or Programs in the Project Area

ID	Project Name; Agency ID	Location	Ownership	Status	Acres	Project or Program Description
1	Crimson Solar	South of I-10, 8 miles southwest of Blythe	Sonoran West Solar Holdings LLC (Recurrent Energy)	BLM Record of Decision published in May 2021. Approved by CDFW June 2021.	2,500	An up to 350 MW solar PV project located on BLM land. The project would interconnect to the SCE Colorado River Substation.
2	Victory Pass Solar Project	4.5 miles east of Desert Center, adjacent to north side of I-10	Clearway Energy Group, LLC	Approved by BLM in December 2021. Construction underway.	1,800	The project located on BLM-administered land would generate 200 MW of solar energy and include up to 200 MW of battery storage. A shared overhead 230 kV gen-tie line with the Arica Solar Project would connect to Red Bluff Substation.
3	Arica Solar Project	Adjacent to north side of Victory Pass project, 5 miles northeast of Desert Center	Clearway Energy Group, LLC	Approved by BLM in December 2021. Construction underway.	2,000	The project located on BLM-administered land would generate 265 MW of solar energy and include up to 200 MW of battery storage. A shared overhead 230 kV gen-tie line would connect to Red Bluff Substation.
4	Desert Quartzite Solar	South of I-10, 8 miles southwest of Blythe	Desert Quartzite LLC (EDFR)	Approved by BLM in January 2020 and Riverside County in October 2019. NOD received by Riverside County on March 2022. Construction underway.	3,770	A 450 MW solar PV facility with a project substation, access road, and transmission line, located primarily on BLM land.
5	Oberon Solar	North of I-10, near Desert Center	IP Oberon, LLC (subsidiary of Intersect Power)	Operational	2,600	An up to 500 MW solar PV project located on BLM land. The project interconnects to the SCE Red Bluff Substation.
6	Ten West Link Transmission Line	From the Colorado River Substation in Blythe, California, to Tonopah, Arizona	Atlantica Yield PLC and Starwood Energy Group Global Inc.	Approved by BLM in November 2019. Approved by the CPUC in November 2021. Construction underway.	N/A	A 500 kV transmission line from Tonopah, Arizona, to Blythe, California. It would span 125 miles, with all but 21.5 miles of the line in the Arizona counties of Maricopa and La Paz and the remainder in Riverside County, California.
7	Blythe PV Project	Blythe	Clearway Energy Group, LLC	Operational	200	21 MW solar PV project located on 200 acres outside of Blythe.

Table 3.1-1. Permitted, Constructed, and Operational Projects or Programs in the Project Area

ID	Project Name; Agency ID	Location	Ownership	Status	Acres	Project or Program Description
8	McCoy/Arlington Solar Project	Blythe	NextEra	Operational	8,100	An up to 750 MW solar PV project located primarily on BLM-administered land about 13 miles north of Blythe. Includes a 16-mile gen-tie line.
9	Genesis Solar Energy Project	North of I-10, 25 miles west of Blythe and 27 miles east of Desert Center	NextEra	Operational	1,950	250 MW solar trough project north of the Ford Dry Lake. Project includes 6-mile natural gas pipeline and a 5.5-mile gen-tie line to the Blythe Energy Center to Julian Hinds Transmission Line, then east on shared transmission poles to the Colorado River Substation.
10	Blythe Solar Power Project	Blythe	NextEra	Operational	4,100	A 485 MW solar PV project located 2 miles north of I-10 and 8 miles west of the City of Blythe on BLM land. A 230 kV gen-tie line connects the solar energy generating facility to the SCE Colorado River Substation.
11	Desert Sunlight Solar Project	6 miles north of Desert Center	NextEra	Operational	4,400	A 550 MW solar PV project located on BLM land. The project includes a 230 kV transmission line that extends south from the site to interconnect with the Red Bluff Substation
12	SCE Red Bluff Substation	Southeast of Desert Center	SCE	Operational	75	220/500 kV substation to interconnect renewable projects near Desert Center to the DPV transmission line.
13	Devers–Palo Verde (DPV) No. 1 Transmission Line	Palo Verde, Arizona, to Devers Substation near Palm Springs	SCE	Operational	N/A	Existing 500 kV transmission line parallel to I-10 from Arizona to the SCE Devers Substation, near Palm Springs. DPV 1 loops into the SCE Colorado River Substation, which is located 10 miles southwest of Blythe.
14	Devers-Colorado River Transmission Line	From Blythe to Devers Substation near Palm Springs	SCE	Operational	N/A	Existing 500 kV transmission line parallel to the I-10 from the SCE Colorado River Substation to the Devers Substation. Right-of-way requires 130 feet on federal, state, and private land.
15	Blythe Energy Project Transmission Line	From Blythe to Julian Hinds Substation	Blythe Energy LLC	Operational	N/A	Existing 230 kV transmission line.

Table 3.1-1. Permitted, Constructed, and Operational Projects or Programs in the Project Area

ID	Project Name; Agency ID	Location	Ownership	Status	Acres	Project or Program Description
16	SCE Colorado River Substation	Blythe	SCE	Operational	90	A 500/230 kV substation located southwest of Blythe. Includes 108-foot-high dead-end structures. Outdoor night lighting is designed to illuminate the switchrack when manually switched on.
17	NRG Blythe II	Blythe	Clearway Energy Group, LLC	Operational	150	20 MW solar PV facility next to Clearway's 21 MW Blythe Project that came online in spring 2017.
18	Desert Harvest Solar Project	North of Desert Center	Desert Harvest I, LLC; Desert Harvest II, LLC. (EDFR)	Operational	1,208	A 150 MW solar PV project located immediately south of the Desert Sunlight project. The gen-tie route parallels the existing Desert Sunlight line to interconnect with the existing SCE Red Bluff Substation.
19	Palen Solar Project	East of Desert Center	Maverick 1-8 Solar, LLC. (EDFR)	Operational	3,140	A 450 MW PV project located 11 miles east of Desert Center on BLM land. Includes a 6-mile gen-tie line into the Red Bluff Substation.
20	Blythe Mesa Solar Project	East of Blythe	Blythe Mesa Solar II, LLC	Operational	3,600	Approved by Riverside County in May 2015. Gen-tie approved by BLM in August 2015, updated right-of-way approved in August 2020 (CACA 053213).
21	Athos Renewable Energy Project	In Desert Center	SoftBank Energy	Operational; Approved by Riverside County and BLM in 2019 (CACA No. 57730).	3,400	A solar PV project located on private land in unincorporated Riverside County adjacent to the northern boundary of the Oberon site. Portions of the gen-tie line cross public land to reach the SCE Red Bluff Substation.

Notes: I = Interstate; BLM = Bureau of Land Management; CDFW = California Department of Fish and Wildlife; MW = megawatts; PV = photovoltaic; SCE = Southern California Edison; kV = kilovolt; gen-tie = generation tie; NOD = Notice of Determination; CPUC = California Public Utilities Commission; DPV = Devers–Palo Verde; EDFR = EDF Renewables.

Table 3.1-2. Contingent Future Projects or Programs in the Project Area

ID	Project Name; Agency ID	Location	Ownership	Status	Acres	Project or Program Description
A	Desert Southwest Transmission Line	118 miles primarily parallel to the Devers–Palo Verde 500 kV line	Imperial Irrigation District	Final EIR/EIS prepared in 2005, approved by the BLM in 2006.	N/A	Approximately 118-mile 500 kV transmission line from a new substation near the Blythe Energy Project to the existing Devers Substation located 10 miles north of Palm Springs, California.
B	Palo Verde Mesa Solar Project	East of Blythe, near Neighbors Boulevard	Renewable Resources Group	Approved by Riverside County in August 2017.	3,250	A 465 MW PV solar plant on 50 parcels totaling 3,250 acres, primarily on agricultural land. Gen-tie line is approximately 11.8 miles to the Colorado River Substation.
C	Eagle Mountain Pumped Storage Project	Eagle Mountain iron ore mine, north of Desert Center	Eagle Crest Energy Company	FERC License issued June 2014. Project approved by BLM in August 2018. On April 12, 2022, FERC issued an order granting an extension of project construction deadlines to commence project construction by June 19, 2024, and the extended deadline to complete project construction is June 19, 2027.	90	1,300 MW pumped storage project designed to store off-peak energy to use during peak hours. The off-peak energy would be used to pump water to an upper reservoir. The water is released to a lower reservoir through an underground electrical generating facility.
D	Easley Renewable Energy Project	Northeast of Desert Center	IP Land Holdings, LLC	Entering review by BLM. SF-299 filed (CACA No. 57822). Notice of Preparation filed with Riverside County.	3,735	The project on BLM land adjacent and north-northeast of the Oberon site would generate and store up to 650 MW of solar PV energy.
E	Lycan Solar	West of the City of Blythe, south of I-10	EDFR	Entering review by BLM. Plan of Development filed with the BLM (CACA No. 105849522).	6,912	An up to 600-megawatt PV solar plant and energy storage system with an approximately 12-mile-long gen-tie line to interconnect with the existing Southern California Edison Red Bluff Substation.

Table 3.1-2. Contingent Future Projects or Programs in the Project Area

ID	Project Name; Agency ID	Location	Ownership	Status	Acres	Project or Program Description
F	Calypso I Solar Project	South of I-10, west of Blythe	EDFR	Under review by BLM (CACA 059319)	3,271	300 MW solar PV project on BLM-administered land that would connect into the Colorado River Substation.
G	Calypso II Solar Project	South of I-10, southwest of Blythe	EDFR	Under review by BLM (CACA 059320)	2,133	300 MW solar PV project on BLM-administered land that would connect into the Colorado River substation.
H	Redonda	N/A	Clearway Energy Group, LLC	Under review by BLM (CACA 059387).	3,483	250 MW solar PV project that would connect into the Arica and Victory Pass Substation.
I	Skybridge Energy	North of I-10	N/A	CUP Application filed with Riverside County in 2022.	133	50 MW solar PV facility to support 50 MW hydrogen electrolyzer generation.

Notes: kV = kilovolt; EIR = Environmental Impact Report; EIS = Environmental Impact Statement; BLM = Bureau of Land Management; N/A = not applicable; MW = megawatts; PV = photovoltaic; gen-tie = generation tie; FERC = Federal Energy Regulatory Commission; I = Interstate; EDFR = EDF Renewables.

3.1.3 References

County of Riverside. 2015a. *Riverside County General Plan*. December 8, 2015. Accessed July 2023. https://planning.rctlma.org/general-plan-and-zoning/riverside-county-general-plan.

County of Riverside. 2015b. *Desert Center Area Plan*. Revised September 28, 2021. Accessed July 2023. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-GPA-2022-Compiled-DCAP-4-2022-rev-6-2022.pdf.

Moore, A. 2023. Confirmation of BLM cumulative projects list. Email correspondence between A. Moore (Bureau of Land Management) and K. Carwana (Dudek). June 28, 2023.

Wheeler, T. 2023. Confirmation of Riverside County cumulative projects list. Email correspondence between T. Wheeler (Riverside County Planning Department) and K. Carwana (Dudek). March 31, 2023.

3.2 Aesthetics

This section includes an analysis of impacts to aesthetics that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning the proposed project (Project). The analysis in this section describes the applicable regulations, provides information on existing aesthetics in and surrounding the Project site, identifies the criteria used for determining the significance of environmental impacts, describes the Project's potential impacts to aesthetics, and lists Mitigation Measures (MMs) that would be incorporated into the Project to avoid and/or substantially lessen to the extent feasible potentially significant impacts.

Aesthetics, as addressed in the California Environmental Quality Act (CEQA), refers to visual considerations in the physical environment. Specifically, such considerations include the elements of the landscape that contribute to the aesthetic and/or scenic character and quality of the environment. These elements can be either natural or human-made. Landforms, water, and vegetation patterns are among the natural landscape features that define an area's visual character and quality, whereas buildings, roads, and other structures reflect human modifications to the landscape. These natural and built landscape features are considered visual or aesthetic resources that contribute to the public's experience and appreciation of the environment.

3.2.1 Regulatory Framework

While most of the Project is located on private lands under the jurisdiction of Riverside County (County), approximately 41 acres encompass public lands administered by the Bureau of Land Management (BLM). Accordingly, this section considers applicable federal regulations relevant to aesthetics/visual resources.

Federal Laws, Regulations, and Policies

Federal Land Policy and Management Act

Section 102(a) of the Federal Land Policy and Management Act of 1976 (BLM 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 [right-of-way] shall contain terms and conditions which will . . . minimize damage to the scenic and esthetic values."

National Park Service Night Sky Program

Nighttime views and environments are among the critical park features the National Park Service (NPS) protects (NPS 2023). Under the Night Sky Program, NPS staff monitor dark night skies and develop exterior lighting guidelines to determine what light is appropriate for a location's historic character, energy, cost, maintenance efficiency, light pollution, and wildlife. Portions of the easternmost areas of Joshua Tree National Park (JTNP) are located within the Project's viewshed, and JTNP has been designated an International Dark Sky Park by the International Dark-Sky Association. While NPS does not have land use jurisdiction over neighboring private lands and communities within the County, in these areas NPS encourages use of warm colors, moderate levels of outdoor lighting, fully shielded and downward-directed lights, and motion detector lighting controls (IDA 2017).

Bureau of Land Management Visual Resource Management System

BLM uses the Visual Resource Management (VRM) System to inventory and manage scenic values on lands under its jurisdiction. Guidelines for applying the system are described in the BLM Manual Section 8400 et seq. (BLM 1984). VRM classes are assigned through resource management plans. The assignment of VRM classes is based on the management decisions made in the resource management plans. The 2016 Desert Renewable Energy Conservation Plan Land Use Plan Amendment assigned a VRM Class IV to the Development Focus Areas that are traversed by the Project Linear Facility Routes (BLM 2016). The VRM Class IV management objective is the least restrictive classification and provides for management activities (projects) that require major modifications of the existing character of the landscape. The level of change allowed may be high and may dominate the view and be the major focus of viewer attention.

California Desert Conservation Area Plan and Northern and Eastern Colorado Desert Coordination Management Plan

The Recreation Element of the California Desert Conservation Area 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 1986). It should be noted that the contrast ratings merely assess consistency with the applicable VRM management objective and do not determine impact significance, as is required under CEQA.

State Laws, Regulations, and Policies

California Scenic Highway System

The California Department of Transportation administers the state Scenic Highway Program to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways (California Streets and Highways Code, Section 260 et seq.). The state Scenic Highway Program includes a list of officially designated highways and highways that are eligible for designation (Caltrans 2023). If a highway is listed as eligible for official designation, it is part of the Scenic Highway Program. While care must be taken to preserve the eligibility status of highways, there are no state land use regulations imposed on lands adjacent to or within the viewshed of an eligible highway.

Neither Interstate (I) 10 nor State Route (SR) 177 in the immediate Project area are either Officially Designated or Eligible state Scenic Highways. The nearest Officially Designated state Scenic Highway, SR-74 (south from SR-111/Palm Desert to the western boundary of the San Bernardino National Forest), is approximately 60 miles west of the Project (Caltrans 2023) and is located beyond the Project's viewshed. The nearest eligible state Scenic Highway, SR-62 (from Morongo Valley to the Arizona border), is located approximately 25 miles north of the Project (Caltrans 2023) and is also located beyond the Project's viewshed. Therefore, the Project is not located within the viewshed of either an Officially Designated or Eligible state Scenic Highway.

California Building Code Title 24 Outdoor Lighting Standards

The requirements of the state's Title 24 outdoor lighting standards vary according to which "Lighting Zone" the equipment is in. These standards contain lighting power allowances for newly installed equipment and specific alterations that are dependent on which Lighting Zone a project is located in. Existing outdoor lighting systems are not required to meet these lighting power allowances. However, alterations that increase the connected load, or replace more than 50% of the existing luminaires, for each outdoor lighting application that is regulated by the standards, must meet the lighting power allowances

for newly installed equipment. An important part of the standards is to base the lighting power that is allowed on how bright the surrounding conditions are. The eyes adapt to darker surrounding conditions, and less light is needed to properly see; when the surrounding conditions get brighter, more light is needed to see. The least power is allowed in Lighting Zone 1 and increasingly more power is allowed in Lighting Zones 2, 3, and 4.

By default, government-designated parks, recreation areas, and wildlife preserves are Lighting Zone 1; rural areas are Lighting Zone 2; and urban areas are Lighting Zone 3. Lighting Zone 4 is a special use district that may be adopted by a local government. The Project site is in a rural area that includes a number of Federal Aviation Administration-related lights that are associated with wind turbine development in the area.

Local Laws, Regulations, and Policies

The Project is located mostly on private lands subject to the land use jurisdiction and regulations of the County. As such, relevant County land use plans and ordinances are identified below.

Riverside County General Plan Land Use Element

The following policies of the County's General Plan Land Use Element are applicable to aesthetics/visual resources and the Project (County of Riverside 2021a):

- **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.
  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.
- **Policy LU 7.1.** Require land uses to develop in accordance with the General Plan and area plans to ensure compatibility and minimize impacts.
- **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 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, and Clean Air Act, and the Clean Water Act.
- **Policy LU 14.1.** Preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public.
- **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 highway corridors are compatible with the surrounding scenic setting or environment.

- **Policy LU 14.4.** Maintain an appropriate setback from the edge of the right-of-way for new development adjacent to Designated and Eligible State and County Scenic Highways based on local surrounding development, topography, and other conditions.
- **Policy LU 21.1.** Require that grading be designed to blend with undeveloped natural contours of the site and avoid an unvaried, unnatural, or manufactured appearance.
- **Policy LU 21.3.** Ensure that development does not adversely impact the open space and rural character of the surrounding area.
- **Policy LU 26.1.** Require that development be designed to blend with undeveloped natural contours of the site and avoid an unvaried, unnatural, or manufactured appearance.
- **Policy LU 26.3.** Ensure that development does not adversely impact the open space and rural character of the surrounding areas.
- **Policy LU 30.8.** Require that industrial development be designed to consider their surroundings and visually enhance, not degrade, the character of the surrounding area.

Riverside County General Plan Circulation Element

The following policies of the County General Plan Circulation Element are applicable to aesthetics/visual resources and the Project (County of Riverside 2020):

- **Policy C 19.1.** Preserve scenic routes that have exceptional or unique visual features in accordance with Caltrans' 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.

In addition to the policies listed above, I-10 (from SR-62 east to the Arizona border) is identified on Figure C-8, Scenic Highways, of the Circulation Element as a County Eligible scenic highway.

Riverside County General Plan Multipurpose Open Space Element

The following policies of the County General Plan Multipurpose Open Space Element are applicable to the Project (County of Riverside 2015):

- **Policy OS 21.1.** Identify and conserve the skylines, view corridors, and outstanding scenic vistas within Riverside County.
- **Policy OS 22.1.** Design developments within designated scenic highway corridors to balance the objectives of maintaining scenic resources with accommodating compatible land uses.
- **Policy OS 22.4.** Impose conditions on development within scenic highway corridors requiring dedication of scenic easements consistent with the Scenic Highways Plan, when it is necessary to preserve unique or special visual features.
- **Policy OS 22.5.** Utilize contour grading and slope rounding to gradually transition graded slopes into a natural configuration consistent with the topography of the areas within scenic highway corridors.

Riverside County General Plan Desert Center Area Plan

The following policies of the Desert Center Area Plan are applicable to the Project (County of Riverside 2021b):

- **Policy DCAP 4.1.** When outdoor lighting is used, require the use of fixtures that would minimize effects on the nighttime sky and wildlife habitat areas, except as necessary for security reasons.
- **Policy DCAP 8.1.** Protect the scenic highways within the Desert Center Area Plan from change that would diminish the aesthetic value of adjacent properties through adherence to the policies found in the Scenic Corridors sections of the General Plan Land Use, Multipurpose Open Space, and Circulation Elements.

County of Riverside Ordinance No. 655 ("Light Pollution Ordinance")

The intent of the County's Light Pollution Ordinance is to restrict the permitted use of certain light fixtures from emitting into the night sky undesirable light rays that have a detrimental effect on astronomical observation and research. The Light Pollution Ordinance establishes Zone A and Zone B for purposes of lighting regulation enforcement. Development within Zone A is subject to more stringent lighting regulations as this area encompasses lands within a 15-mile radius centered on Palomar Observatory. Development within Zone B is subject to less-stringent measures as Zone B includes lands greater than 15 miles away from Palomar Observatory. Within both Zones A and B, low-pressure sodium lamps are preferred and all nonexempt outdoor light fixtures must be shielded (County of Riverside 1988). Regarding Class II (i.e., parking lot, walkway, security) lighting, lighting above 4,050 lumens is prohibited in both zones.

3.2.2 Environmental Setting

Project Site

Ground surface elevations at the Project site range from approximately 550 feet above mean sea level (amsl) in the eastern solar parcel to 660 feet amsl near the western end of the parcel. As noted in the Biological Resources Technical Report prepared for the Project (Appendix C), the entirety of the proposed solar facility boundary (i.e., land area upon which solar arrays would be developed/installed) comprises privately owned land previously used for agriculture and, more specifically, a commercial jojoba cultivating operation and aquaculture. Remnant low and scattered jojoba shrubs (primarily dead) intermixed with various desert plant species of a low to moderate height and drab green-gray color, including cholla, smoke tree, jimson weed, and palo verde, are present in areas previously used for commercial jojoba farming operations. Eroded access roads are also present in these areas as is evidence of irrigation lines. The westernmost private parcel with the Project boundary contains relatively recent disturbance related to active agricultural practices, including linear mounds of terrain to create basins/ponds and narrow irrigation lines/canals. The parcels also support low shrubs exhibiting a stippled texture and distribution in aerial images of the site. In addition to fallow agricultural lands, areas bordering the perimeter of the Project site consist of desert terrain supporting creosote brush scrub and dry desert wash woodland vegetation. Several narrow alluvial washes also traverse the area adjacent to the Project site.

Surrounding Area

The Project site is in the western extent of Chuckwalla Valley in the Colorado Desert, north of Desert Center, east of Palm Springs, and west of Blythe. Land uses near the Project site include aquaculture, transportation (Kaiser Road, Rice Road/SR-177, Chuckwalla Valley Raceway, and Desert Center Airport), agriculture, renewable energy (both existing, under construction, and proposed), energy transmission, and unprogrammed recreational and wilderness areas. The community of Lake Tamarisk is located approximately 1.28 miles southwest from the Project site at its nearest point. In addition to residential

uses including mobile and manufactured homes and permanent homes, the community includes a golf course, recreational ponds, a small community center, and a fire station. A small church facility is located to the immediate north of the Lake Tamarisk area.

In addition to vacant undeveloped lands supporting the characteristic tan soils and scattered low shrubs of the valley landscape, an active aquaculture operation occurs to the west of the Project site and east of Kaiser Road. The northeastern corner of the operation is seemingly vacant but presents evidence of past disturbance associated with agricultural operations. The remainder of the operation's northern area (and the westernmost area) supports several long, rounded, rectangular basins/ponds filled with water (or other liquid utilized in the aquaculture process). In addition to several temporary trailers and a permanent "office" structure, repeating rows of white/clear tarped greenhouse structures with arched forms are stacked side by side and occur to the east of the rounded, rectangular ponds. As the facility is setback from Kaiser Road, vertical structures, including temporary trailers, the permanent building, and greenhouse features, are not particularly clear in views from Kaiser Road.

The proposed Easley Renewable Energy Project would surround the Project on all sides. In addition to vacant, undeveloped lands featuring scattered and low desert shrubs and, occasionally, electrical distribution infrastructure, and informal access roads, the existing Desert Sunlight and Desert Harvest Solar Projects are located north of the Project site; the existing Athos Solar Project is located south, northeast, and east of the Project site; and the recently approved Oberon Solar Project (a series of scattered yet interconnected, post-mounted photovoltaic [PV] solar array sites generally located to the south and east of SR-177) is located to the south of the Project site and Lake Tamarisk. Repeating rows of low, dark, rectangular, and post-mounted PV modules intermixed with boxy power conversion stations, transformers, and faint overhead lines supported by thin poles are the primary visual element of existing solar developments in the surrounding area. The distances from each of these sites to the Project are listed in Table 2-1, Surrounding Projects (see Chapter 2, Description of the Project). Figure 2-3, Proposed Project and Other Solar Projects, shows the Project in relation to other existing, approved, and proposed solar development projects.

Regarding recreational and wilderness areas, the Desert Center and Lake Tamarisk areas (and more broadly, the western extent of the Chuckwalla Valley) are situated between mountain terrain to the north, east, south, and west. Specifically, Eagle Mountain lies to the west of the Project site, the Coxcomb Mountains are located to the north, the Palen/McCoy Mountains are located to the east (and east of SR-177), and the Chuckwalla Mountains are located to the south (and south of I-10). Both the Palen/McCoy Mountains and Chuckwalla Mountains encompass public lands managed by BLM as wilderness and the southeastern extent of JTNP includes the southerly extension of the Coxcomb Mountains located to the north of Chuckwalla Valley and the Project site (this area is also managed as wilderness by NPS). Eagle Mountain also encompasses NPS lands included within JTNP. Federal wilderness in the surrounding area comprises preserved lands that permit unprogrammed, trail-based recreation.

Scenic Vistas

There are no designated scenic vistas in the Desert Center Area Plan nor are there any designated scenic vistas on nearby public lands managed by BLM (or other agencies). While not designated as scenic vistas, the surrounding terrain and ridgelines are valued for providing a scenic backdrop for the region (County of Riverside 2021b). In addition, and as described previously, the western extent of the Chuckwalla Valley is surrounded by mountainous terrain and, as such, elevated slopes and ridgelines support potential scenic vistas offering unobstructed and panoramic views of the surrounding area. Despite this potential, formal trails in these mountainous areas are generally nonexistent as are nearby staging areas for recreationists to access the mountain terrain.

Scenic Highways

I-10 is a County Eligible Scenic Highway but is neither an eligible nor designated state Scenic Highway (County of Riverside 2020). At its closest point, the Project site is located 3.5 miles to the north of I-10 and northerly views from the interstate as motorists approach and pass the Desert Center area include low tan and muted green covered terrain intermixed with areas of exposed, tan soils; tall rust-colored poles that support electrical transmission lines; desert washes (occasionally); irrigated (i.e., green) landscaping near the Lake Tamarisk area; distant and dark, rectangular forms (solar arrays); the remaining undeveloped valley floor; and dark and visually prominent mountains in the background. The nearest facility of the California Scenic Highway System, SR-62 (an officially designated state Scenic Highway), is located approximately 20 miles to the north of the Project site; due to intervening terrain, views to the western extent of Chuckwalla Valley do not extend to SR-62 motorists.

Visual Character and Quality

The existing visual character and quality of the Project site and surrounding area is described above under the Project Site and Surrounding Area headings. Generally, the site and immediate surrounding area comprise a relatively flat desert landscape that supports a sparse to irregular distribution of low shrubs of subdued tans, browns, and drab/muted greens. The Project's valley landscape is generally indistinct from other locations in the Chuckwalla Valley and is visually submissive to prominent mountain terrain that provides a scenic backdrop of visual interest.

Key Observation Points

To further explore and contextualize existing visual character and view quality, key observation points (KOPs) were established in the surrounding area and comprise representative public vantage points that include views to the Project site and surrounding valley and mountain landscape. KOPs were initially identified during a desktop review of the Project site and surrounding area, and siting focused on publicly accessible vantage points with the viewshed of future solar arrays on the Project site. These KOPs were also reviewed and approved by the County and BLM. The selected KOPs comprise views from public roadways, recreational trails, the Desert Center Airport, and areas of cultural significance. A total of 10 KOPs have been established and are representative of views available to existing viewer groups in the surrounding area. The KOPs include a variety of viewing angles and distances toward and from the Project. The location of KOPs and their spatial relationship to the Project site is illustrated in Figure 3.2-1, Key Observation Points. Photographs from the selected KOPs are presented on Figures 3.2-2 through 3.2-6.

KOP 1: Dragon Wash Site

KOP 1 is located at the Dragon Wash rock art site that is significant to Native American communities in the region. Situated approximately 6.85 miles to the southwest of the Project site, KOP 1 presents a northeast–east view from elevated foothill terrain comprising the easterly extent of the Eagle Mountains across the Chuckwalla Valley landscape. See Figure 3.2-2, KOPs 1 and 2: Existing Conditions. As shown in the figure , the available vista is broad and defined by mountain terrain to the north and south and extends to the Palen/McCoy Mountains (located approximately 20 miles away) and more distant mountainous terrain to the east. The foreground landscape is characterized by typically low, spreading shrubs (creosote and other) of muted green and brown tones intermixed with low, dried grasses, exposed grayish tan soils, and scattered rocks. Several taller and wider shrubs, including palo verde and ironwood, occur to the west and the foreground landscape is spanned by a regional transmission line aligned in a general north–south orientation to the view (the transmission line is supported by lattice towers that partially blend into the surrounding landscape). The middle ground landscape is defined by seemingly flat terrain stippled with

low, muted green shrubs that, in the distance, are interrupted by multiple dark and low geometric forms and lines (i.e., solar, residential, and agricultural development). The darkest forms on the valley floor are associated with solar development in the northern extent of the visible valley landscape. Terrain at the base of the Palen/McCoy Mountains is lighter in color and smoother in texture than other visible areas of the Chuckwalla Valley.

KOP 2: Eagle Mountain Road

Located 4.15 miles northwest of the Project site on Eagle Mountain Road near the Eagle Mountain Pumping Plant, KOP 2 presents an east–southeast view from the elevated Eagle Mountain foothill terrain toward a low foreground berm, the seemingly flat terrain of the Chuckwalla Valley, and rugged Palen/McCoy Mountains As shown in the Figure 3.2-2, the foreground landscape consists of scattered and dry shrubs amidst rocky, grayish soils and a low, rocky berm. Beyond these features, the valley landscape is typified by tan/brown tones (vegetation and soils) and the dark grayish-blue colors and narrow tan lines of PV panels and access roads associated with solar development. As experienced from KOP 2, portions of the in-operations Desert Sunlight and Desert Harvest solar facilities are visible to the east and contribute smooth textures and dark and light colors to the valley floor landscape.

KOP 3: Joshua Tree Wilderness

Situated 3.3 miles to the northeast of the Project site on a rocky, maintained access road at the base of the Coxcomb Mountains, KOP 3 is representative of views available to trail-based recreationists on lower elevation lands within the Joshua Tree Wilderness. Managed by NPS as a unit of JTNP, the Joshua Tree Wilderness boundary occurs to the immediate north of the access road upon which KOP 3 is located. The existing view from KOP 3 toward the Project site is presented as Figure 3.2-3, KOPs 3 and 4: Existing Conditions. In addition to the access road and adjacent low berm, the foreground landscape at KOP 3 consists of a rocky ground plane supporting characteristic Chuckwalla Valley area shrubs (e.g., creosote and ironwood) and a narrow sandy wash running perpendicular to the access road. Beyond the foreground, the density of vegetation appears to increase so much that the ground is concealed. The broad valley landscape is evident in the middle ground and several indeterminate sources of light/blue tones are present on the valley floor, including to the south of I-10. Solar development in the northern Chuckwalla Valley is visible (see “right” extent of the middle ground landscape in the KOP 3 view in Figure 3.2-3) but is rather indistinct and partially blocked from view by intervening desert shrubs.

KOP 4: Kaiser Road

Kaiser Road and KOP 4 are located approximately 0.9 miles to the west of the Project site. A north–south roadway, Kaiser Road provides access to local communities and infrastructure located north of I-10 such as Lake Tamarisk, solar developments, and the currently nonoperating Eagle Mountain mine and town. A representative eastern view from Kaiser Road near the Project site is presented on Figure 3.2-3 (see KOP 4 image). As shown on the figure, the foreground landscape consists of exposed soils intermixed with small, strewn rocks and scattered desert shrubs (creosote and ironwood are visible in the existing conditions photograph). Several indeterminate structures are visible to the east in the middle ground (in the right extent of the view) but these features are partially blocked from view by intervening vegetation and, as a result, visible structures are not visually prominent or especially distinct. There are several areas contributing darker tones to the landscape (see left extent of the photograph in the middle ground) but, as viewed from KOP 4, the source of the dark tones is indeterminate.

KOP 5: Chuckwalla Valley Raceway Driveway at SR-177

KOP 5 is located approximately 0.15 miles to the south of the Project site. It is situated at the intersection of SR-177/Rice Road and the primary driveway to the Desert Center Airport and Chuckwalla Valley Raceway. See Figure 3.2-4, KOPs 5 and 6: Existing Conditions (KOP 5 image). KOP 5 is representative of views available to visitors to the Desert Center Airport and Chuckwalla Valley Raceway as they leave the facility and travel toward SR-177.

In addition to the dark paved highway surface, the KOP 5 foreground consists of a wide, denuded highway shoulder with numerous tire tracks and the muted greens and yellows of characteristic desert valley vegetation. Bermed land/terrain is evident in the middle ground to the west; beyond this bermed terrain, the valley landscape including vegetation is relatively indistinct and unclear. While present in the middle ground, poles supporting transmission lines are faint and tend to blend into the background mountain terrain. A reddish brown, mounded landform rises from the valley floor in the distance and the rugged Eagle Mountains provide a scenic backdrop to the visible desert terrain.

KOP 6: Desert Center Airport

Situated on the landing strip of the Desert Center Airport, KOP 6 provides an east–southeast view toward the Project site (located approximately 1.45 miles to the northwest) and northern extent of the Chuckwalla Valley landscape. See Figure 3.2-4 (KOP 6 image). Similar to other KOPs, the immediate foreground of the KOP 6 landscape supports exposed soils, creeping grasses, and low, weedy shrubs. Farther to the east, the terrain is covered with mounded, low shrubs of muted desert tones, several long and light-colored rectangular structures that appear to be modular or prefabricated trailers, and recreational trailers. Formal tree plantings are visible near the cluster of trailers/structures and appear to flank an access road/driveway. Several latticed communication towers are also erected near the trailers/structures; where not silhouetted against the background sky, these features tend to blend in with more distant mountain terrain. Rugged hill and mountain terrain provide visual interest in the landscape and an interesting juxtaposition of terrain form, line, and color.

KOP 7: Desert Center Training Site

Located approximately 1.45 miles south of the Project at a site of the former World War II Desert Training Center/California-Arizona Maneuver Area, off Oasis Road, KOP 7 presents a north-oriented view across the Chuckwalla Valley landscape and to the Coxcomb Mountains. See Figure 3.2-5, KOPs 7 and 8: Existing Conditions (see KOP 7), Desert Training Center Site. As shown in the figure, the foreground desert valley landscape includes a large area of unvegetated, sandy terrain, isolated creosote shrubs, and gnarled trees. The middle ground terrain to the north is obscured by intervening shrubs; however, narrow view corridors between dense vegetation clusters occur and reveal thin and noncontinuous specks of dark tones and smooth textures associated with existing solar development in the area.

KOP 8: Shasta Drive – Lake Tamarisk Community

Shasta Drive is a local, north–south neighborhood road in the northwestern portion of the Lake Tamarisk community. Located 1.35 miles southwest of the Project site, KOP 8 is situated near the northern terminus of Shasta Drive and near existing one-story single-family residences. Thus, the view available from KOP 8 is representative of views available to residents in the Lake Tamarisk community, including those residences to the east in the Lake Tamarisk Desert Resort (mobile home and RV resort). As shown in Figure 3.2-5, the view from KOP 8 is similar to the view from KOP 7: the immediate foreground encompasses rocky exposed soils, scattered and low creosote shrubs, and a limited number of trees. Compared to the view at KOP 7, existing solar development in the middle ground (i.e., Desert Harvest and Desert Sunlight)

is visible yet presents as a relatively low, horizontal band of dark grayish color that is not visually prominent in the landscape.

KOP 9: I-10

Located on I-10 approximately 3.5 miles to the south of the Project site, KOP 10 is oriented to the north and is representative of the views available to motorists as they pass through the Chuckwalla Valley and Desert Center area. See Figure 3.2-6, KOPs 9 and 10: Existing Conditions (see KOP 9 image). In addition to tan, rocky soils and mounded creosote shrubs, the grayish metallic backsides of panels associated with a nearby solar facility are low but visible in the landscape. A series of rust-colored poles supporting regional transmission lines run perpendicular to the view (the rust-colored poles tend to stand out when viewed against the dark gray/purple tones of the distant Coxcomb Mountains). Beyond this facility, the shrub-covered desert terrain is regularly interrupted by boxy, light-colored structures of indeterminate use and by the dark, geometric forms and hard lines of existing solar developments. Contrast associated with solar developments in the desert landscape is muted by cloud cover; when experienced under sunny conditions, the juxtaposition of tan access roads viewed alongside dark rows of repeating panels would be more apparent than captured in the KOP 9 image.

KOP 10: North Chuckwalla Mountains Petroglyph District

KOP 10 is located approximately 4.3 miles south/southeast of the Project site on the elevated foothill terrain of the Chuckwalla Mountains and provides a north-oriented view of the Chuckwalla Valley landscape. See Figure 3.2-6 (KOP 10 image). Similar to other evaluated KOPs, the view from KOP 10 includes the characteristic vegetation and rocky tan soils of the Chuckwalla Valley. In addition, the KOP 10 foreground includes several braids of dark-toned desert pavement. Low scattered shrub contributed muted greens to the landscape and a tall tubular steel pole is centrally located in the foreground. A low hill rises to the north of this feature and the low profile of I-10 is concealed by intervening vegetation and terrain (truck traffic on the interstate reveals its location). North of the interstate there are visible disturbances in the valley landscape, including linear rows of solar panels and more distant discoloration. These areas, typically broad and presenting as smooth geometric forms and gradational transitions of light and dark color, are associated with existing solar development that, as experienced from KOP 10, appear numerous in the landscape. See Figure 3.2-6 (see KOP 10 image). Lastly, local mountainous terrain, including the Eagle Mountains to the northwest, Coxcomb Mountains to the north, and McCoy/Palen Mountains to the northeast, creates a scenic backdrop to the valley landscape.

Light and Glare

As the Project site is currently vacant, there is no existing lighting within the Project site. Existing sources of light and glare (potential) near the Project site include lights from traffic on SR-177 to the east and I-10 to the south, as well as limited lighting at the existing aquaculture facility located off Kaiser Road and at nearby operable solar facilities, the Desert Center Airport to the southeast, and the community of Lake Tamarisk to the southwest. Overall, these outdoor lights are muted and do not contribute significantly to the existing nighttime light environment. Roadways generate glare from the sun's reflection off cars and paved surfaces during daytime hours. At night, vehicle headlights on surrounding roadways are also sources of glare.

3.2.3 Impact Analysis

Methodology

Scenic Vistas

For purposes of this report, scenic vistas are considered formally designated public vantage points offering views of primarily natural settings containing recognized scenic features or landscapes of special importance. As stated above in Section 3.2.2, Environmental Setting, Scenic Vistas, unincorporated Riverside County has not designated scenic vistas in the County.

The concepts of view blockage, interruption, and degradation are used to determine the severity of potential impacts to scenic vistas. If views from public vantage points across the Project site include recognized scenic features, then Project components are examined to determine the likelihood for view obstruction (i.e., view blockage), view interruption (i.e., intrusion on available view due to contrasting features), or degradation (i.e., decline in scenic quality).

Scenic Highways

Scenic highways include those state facilities that have been officially designated or nominated for official designation through eligible status by the California Department of Transportation. If the Project site is located within the viewshed of a state Scenic Highway, then the potential for impacts to state Scenic Highways is informed by the presence of existing scenic resources on the Project site, Project plans to avoid/protect or disturb existing scenic resources, and the visibility of scenic resource disturbance from an officially designated or eligible state Scenic Highway. Pursuant to CEQA Appendix G guidelines, scenic resources include trees, rock outcroppings, and historic buildings, and may also include locally recognized scenic resources including oak trees, vineyards, and rolling hills.

Neither SR-177 nor I-10 are state Scenic Highways (I-10 is a County Eligible Scenic [County of Riverside 2020]). No views of the Project site are available from a state Scenic Highway.

Visual Character and Quality

Impacts to existing visual character and quality are determined through a comparison of pre- and post-development conditions on the Project site. Specifically, the Project is examined for potential contrast with existing on-site features and features in the surrounding area.

Lighting and Glare

The potential for lighting and glare impacts are evaluated based on a comparative review of pre- and post-development lighting and glare sources operating in the Project area. If a project in an urban or developed area currently contains existing nighttime lighting and glare sources, then the likelihood for a project with comparable lighting to result in significant lighting and glare impacts is low (assuming the installation of standard control measures). On the other hand, if a dissimilar project in a low-lighting rural environment with excessive or unusually bright lighting is implemented, then the likelihood for potentially significant lighting and glare impacts would be high.

Project-specific lighting and glare analyses have been prepared and the results of the analysis are summarized below. In addition, the Project-specific analyses are presented as Appendix A, Photometric Lighting Study, and Appendix B, Glare Analysis Report within the Visual Resources Report (Appendix D).

Criteria for Determining Significance

Section I of Appendix G to the State CEQA Guidelines addresses typical adverse effects to aesthetics and includes the following threshold questions to evaluate a project's impacts on visual resources. Would the project:

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

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

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

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

Regarding impacts to visual character or quality, the Project site is located in unincorporated Desert Center, which, as of the 2020 Census, is included in the Desert Center Census Designated Place that had a population of approximately 256 persons (U.S. Census Bureau 2020). Desert Center is surrounded by unincorporated desert lands and is not located within an urban growth boundary. Therefore, consistent with California Public Resources Code Section 21071, the Project site is within a nonurbanized setting and, thus, the applicable significance threshold is whether the Project would substantially degrade the existing visual character or quality of public views of the site and its surroundings.

The County's Environmental Assessment Form includes additional significance criteria that were also used in the analysis. According to the County's Environmental Assessment Form, a project could have potentially significant impact if it would:

a) Have a substantial effect upon a scenic highway corridor within which it is located?

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and unique or landmark features; obstruct any prominent scenic vista or view open to the public; or result in the creation of an aesthetically offensive site open to public view?

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

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

e) Expose residential property to unacceptable light levels?

Environmental Impacts

This section includes an examination of the Project's aesthetic impacts per the County's Environmental Assessment Checklist and Appendix G of the State CEQA Guidelines identified above.

Threshold a: Would the project have a substantial adverse effect on a scenic vista?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

While there are no scenic vistas designated in the County's Desert Center Area Plan or General Plan, the surrounding mountainous terrain including ridgelines are valued for providing a scenic backdrop for the

region (County of Riverside 2021b). The Project site is in western Chuckwalla Valley, a landscape surrounded by mountainous terrain that provides opportunities for scenic vistas offering unobstructed and panoramic views of the valley and mountain area. Despite this potential, formal trails in these mountainous areas are generally nonexistent as are nearby staging areas for recreationists to access the mountain terrain.

Construction

Construction is anticipated to occur over a 12- to 18- month period and would occur in a phased approach. Construction activities could result in short-term impacts on views related to the presence of equipment, materials, vehicles, and personnel in the landscape (at the solar facility site, along the generation tie [gen-tie] route, and along Project area roads) and the generation of dust from ground disturbance and general vehicular movement. As described in the light and glare analysis below, infrequent and limited nightwork during construction would not require use of mobile or other temporary light sources to facilitate construction activities; therefore, construction night lighting (and potential effects on views) is not considered in this analysis.

View effects due to temporary construction activities including vehicle/equipment/worker presence would be fleeting and would not result in substantial, prolonged obstruction or interruption of scenic resources (including mountainous terrain) in the surrounding area. Construction of the Project may entail the use of cranes, aerial lifts, heavy equipment including tractors, rubber-tired dozers, graders, and scrapers, temporary storage and operations facilities, and temporary laydown and staging areas. Construction activities would include site preparation and grading; construction of new access roads (internal and external), 230-kVgen-tie line including under hung fiber optic cable and associated monopoles, and collector line; construction of the electrical substation, operations and maintenance (O&M) building, and microwave tower; and installation of solar arrays, inverters, transformers, and battery energy storage system (BESS). The equipment, vehicles, and workforce involved with these activities (and components associated with the various phases of construction) would be visible from SR-177, Kaiser Road, the driveway to the Desert Center Airport and adjacent Chuckwalla Valley Raceway, Lake Tamarisk and Desert Center, I-10, and surrounding wilderness areas.

Throughout the duration of construction, occurrences of blockage or interruption of scenic features in views would be momentary (i.e., experienced over a short duration of time) and temporary as taller pieces of equipment move around the site and specific phases of construction are completed. Ground surface disturbance and vegetation removal, as well as general grading and trenching activities, could generate short-term dust clouds that have potential to temporarily affect general view quality including degradation of existing view quality. Potential for short-term dust clouds would be substantially limited by compliance with South Coast Air Quality Management District (SCAQMD) Rule 403 and implementation of fugitive dust control measures, including watering active areas of construction two times daily (or the use of nontoxic soil stabilizers/soil weighting agents), restrictions on construction vehicle speeds on unpaved areas within the construction site, and use of gravel at unpaved exits from the Project site to prevent track-out onto public roadways. Fugitive dust control measures are included in the Project's Fugitive Dust Control Plan and described in MM AQ-2 (see Section 3.4, Air Quality).

Except for fugitive dust and temporarily impaired viewing conditions, construction activities and equipment and vehicles would not result in a substantial short- or long-term impact on scenic vistas. Impacts associated with the generation of dust during grading and trenching activities would be less than significant with mitigation incorporated through compliance with SCAQMD Rule 403 and implementation of fugitive dust control measures as included in MM AQ-2.

Operations

Regular use of the area surrounding the project site for recreational enjoyment is not in evidence, based on the remote nature of the area, lack of formal or informal public staging and parking areas, and lack of formal or signed trails. However, views from elevated terrain in the area surrounding the Project site may provide opportunities for broad, panoramic, and long views of the Chuckwalla Valley and surrounding area. Therefore, the potential for the Project to substantially obstruct or interrupt scenic views of the landscape is evaluated below using select KOPs (KOPs 1, 9, and 10 and related visual simulations) that offer broad, panoramic, and/or long views of the valley and mountain landscape from elevated terrain. While select KOPs were used to inform the discussion of potential impacts to scenic vistas and views, visual change and alteration of views anticipated at all KOPs is addressed below under the Threshold c heading.

KOP 1: Dragon Wash Site

As experienced from KOP 1, existing solar facilities present a low and wide, blue/black color on the valley floor. See Figure 3.2-7, KOP 1: Dragon Wash Site. From this vantage point, existing solar facilities do not result in blocked or obstructed views of the surrounding valley and mountain landscape. With implementation of the Project, the dark tones and indeterminate form of existing solar facilities would appear to expand to the south (this apparent "expansion" encompasses solar panels on the Project site), occupying more of the valley floor, but anticipated color contrasts would not result in significant view interruption or degradation. See Figure 3.2-7 (Visual Simulation of the Project image). Within the broad view available at KOP 1, the introduction of the Project (i.e., solar field and ancillary components) would result in less-than-significant scenic view effects. No mitigation would be required.

KOP 9: I-10

While not an elevated, superior angle view, the view from KOP 9 (I-10) is relatively broad and free of topographical limitations to the east and west (mountains restrict total view length to the north). See Figure 3.2-15, KOP 9: Interstate 10. From KOP 9, existing solar facilities to the north have noticeably altered the valley landscape. Anticipated visual change associated with the Project is illustrated in Figure 3.2-15; as depicted, the presence of solar panels, tan access roads, battery storage containers, a substation, an O&M building, and other ancillary components on the Project site would be noticeable in the view but would have a weak effect on existing view quality. Because Project implementation would not result in substantial view interruption or degradation, impacts to existing views at KOP 9 would be less than significant.

KOP 10: North Chuckwalla Mountains Petroglyph District

Anticipated visual change associated with Project implementation is illustrated in Figure 3.2-16, KOP 10: North Chuckwalla Mountains Petroglyph District. Existing solar development is evident in the view from KOP 10 and generally appears as low-profile, geometric forms of light and dark color. With construction and operation of the Project, additional color contrast would be noticeable on the valley floor; while the dark tones of PV panels would be difficult to overlook (the dark color would result in some new view interruption), within the context of the existing landscape that includes several operating solar facilities that present similar color and line contrasts as the Project, impacts to scenic vistas associated with implementation of the Project would not have a substantial adverse impact. Substantial view degradation would not occur and overall impacts to scenic vistas would be less than significant.

Summary: Operations

The landscape of the western Coachella Valley has been noticeably altered in recent years by the development of commercial solar facilities. In addition to the numerous rows of solar PV panels, these installations include electrical substation, gen-ties, and access roads (regional transmission lines are also present in the valley), all of which have altered views and the visual resources of the valley landscape. While the introduction of solar panels and ancillary components associated with the Project would be noticeable and create color and line contrasts in the landscape as viewed from elevated vantage points in the surrounding area, anticipated contrasts would be like those created by existing, nearby solar facilities. As a result, operation of the Project would not result in substantial view interruption or degradation. Based on the representative analysis presented above and the anticipated visual change depicted in KOPs 1, 9, and 10, impacts to scenic vistas would be less than significant.

Decommissioning

Following the operational life of the Project, the solar facility would be decommissioned and the site would be returned to near pre-Project conditions. The complete removal of the Project from the landscape would temporarily create a prominent visual effect associated with strong color and line contrast created between graded, disturbed soil areas and undisturbed soil and vegetated areas. This effect would be short-lived, as the Project area would be revegetated following decommissioning in accordance with the Project's Restoration Plan. This effect would neither result in substantial view obstruction nor interruption from scenic vistas considered in this analysis. The presence of previously graded and disturbed areas on the valley floor may result in some interruption of views; however, hikers and other recreationists would be accustomed to these contrasts that would have been present in the landscape over the prior 39 years (i.e., over the operational life of the Project). Because decommissioning activities (and related effects on the landscape) are not anticipated to result in substantial effects on a scenic vista and would neither substantially obstruct or interrupt the visibility of a scenic resources in views, no mitigation is recommended or required. Impacts would be less than significant.

Threshold b: Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

NO IMPACT. The Project site is located adjacent to SR-177 and is within 3.5 miles of I-10. Neither facility is included in the State Scenic Highway System. The nearest facility of the California Scenic Highway System, SR-62 (an eligible state Scenic Highway), is located approximately 20 miles to the north of the Project site and due to intervening terrain, views of the western extent of Chuckwalla Valley do not extend to SR-62 motorists. In addition, there are no scenic resources, including trees, rock outcroppings, and historic buildings, at the Project site. Because view of the Project would not be available from a roadway included on the state Scenic Highway System, no Project construction, operational, or decommissioning impacts to scenic resources within a state Scenic Highway would occur.

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

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED (CONSTRUCTION); SIGNIFICANT AND UNAVOIDABLE (OPERATIONS).

The Project consists of previously disturbed former agricultural and undeveloped land located in the western Chuckwalla Valley. The construction, operation, and decommissioning of the Project would be visible to motorists on local and regional roads, residents, and recreationists in the surrounding area

including from the eastern extents of JTNP. Construction, operations, and decommissioning-related effects on visual character or quality of public views are analyzed below.

Construction and Decommissioning

During construction, craft workers/contractors, management employees, and non-craft construction personnel are anticipated to be on site. Construction of the Project is anticipated to occur over a 12- to 18-month time frame with activities anticipated to commence in late 2024/early 2025. The Commercial Operation Date is anticipated to occur in December of 2025. Generally, construction work schedules are expected to be at least 8 hours per day Monday through Friday, excluding federal holidays. Typically, the workday would consist of one shift beginning as early as 6:00 a.m. and ending as late as 7:00 p.m. The work schedule may be modified throughout the year to account for the changing weather conditions. For instance, during hot weather, it may be necessary to start work earlier to protect the health and safety of workers and/or avoid pouring concrete during high ambient temperatures. Additional hours and/or nighttime work and weekend work (Saturdays and Sundays) may be necessary to make up schedule deficiencies, or to complete critical construction activities (e.g., PV block construction, foundation pouring, or working around time-critical shutdowns and constraints). Construction activities would be temporary and limited to the duration of the construction schedule. Decommissioning activities are anticipated to be similar to construction activities.

The Project site is generally partially obscured from public view due to distance from public vantage points (e.g., roadways and trails) and partial screening associated with intervening desert vegetation. The clearest views to the Project site would be from elevated/slightly elevated vantage points in the surrounding area including KOPs 1, 2, 3, 9, and 10. Construction activities, equipment, and vehicles would be visible from these KOPs at varying levels of clarity.

Construction activities would disturb the ground surface by removing low, on-site vegetation and turning underlying soils. Anticipated surface disturbances would affect existing views and visual character by altering the existing site appearance through the creation of large areas of exposed soils with a relatively smooth texture and light tan color (texture and color contrast with adjacent undeveloped desert lands would occur). Further, site development would affect existing visual character through removal of remaining vegetation/vegetative material from the Project site and the creation of hard lines/edges at Project boundary extents (i.e., the hard line would result from vegetation removal and scrapping of topsoil for purposes of creating a level site experienced against unaltered off-site lands). Construction activities and specifically, the movement of vehicles and operation of equipment across the site, would generate dust that could result in reduced atmospheric clarity and view quality (dust generation would be reduced by application of water or other dust suppressing techniques across the site). Fugitive dust control measures are included in the Project's Fugitive Dust Control Plan as described in MM AQ-2 (see Section 3.4, Air Quality).

As experienced from KOPs 1, 2, 3, 4, and 9, the movement of vehicles and operation of equipment would be difficult to detect due to distance. See Figures 3.2-7, 3.2-8, 3.2-9, 3.2-10, and 3.2-15. At KOP 10, visibility of the site would be enhanced by the elevated vantage point; however, vehicles and equipment are still anticipated to be relatively indistinct in views due to distance. See Figure 3.2-16. Because views to the site from KOPs 6 through 8 are partially or fully blocked by intervening buildings and/or vegetation, changes in the landscape resulting from construction would not be visible and would not result in substantial degradation of existing character or view quality. While vehicle and equipment within the Project site would be difficult to detect, landscape effects and specifically the introduction of contrasting colors, lines, and forms, would be most detectable from KOPs 1, 3, and 10 due to their slightly elevated vantage point relative to the Project site. See Figures 3.2-7, 3.2-9, and 3.2-15. However, the degree of construction-

associated contrasts from KOP 1 would be weakened by the presence of similar colors, lines, and forms in the landscape (and by the temporary nature and brief duration experience of anticipated contrasts). At KOP 3, a relatively clear view corridor to the Project site is available due to the slightly elevated nature of the vantage point; as a result, a larger portion of the construction area would be visible (i.e., compared to the visibility of the Project site from lower elevation vantage points). At KOP 3, the anticipated degree of visible contrast in the landscape associated with Project grading would be weak due to distance, the available narrow view corridor, and lack of spatial dominance of Project activities. While the Project would lack scale dominance at KOP 10, activities within the broad landscape visible from the KOP could generate dust that would temporarily impair visual quality and result in moderate visual contrast. Viewer groups affected by these impacts and visible contrasts include limited recreation users in the surrounding mountains and foothills, dispersed recreation users on the valley floor, and motorists on I-10. Over the course of construction, the character of the under-construction site and gradual transformation from a previous jojoba farm to a solar facility would cause visual contrast and visual change. However, as construction and decommissioning activities would be temporary in nature, they would not result in substantial long-term effects to visual character and views. Therefore, construction and decommissioning impacts would be less than significant with mitigation incorporated (i.e., MM AQ-2) to address potential impairment of views due to generation of dust.

Operations

Components of the Project (primarily solar panels but also the gen-tie line (including under hung fiber optic cable) and distribution system poles) would have varying degrees of visibility from the 10 KOPs identified for analysis based on elevation of the vantage point, proximity to the Project site, and the presence (or lack thereof) of intervening screening elements such as vegetation, terrain, and/or structures. A brief KOP-by-KOP analysis is presented below to inform the overall evaluation of impacts to existing visual character and existing view quality.

KOP 1: Dragon Wash Site

Elements of the Project would be visible at KOP 1, but individual forms and lines of components would not be distinct. Rather, the Project, and more specifically solar arrays and ancillary components, would be viewed as a singular element that would display a horizontal/geometric form on a portion of the northern valley floor. Overall contrasts associated with the Project and experienced at KOP 1 would be weak/moderate and the visible Project components would occupy a small portion of the seen landscape and would be viewed alongside existing nearby solar development. Accordingly, impacts to the existing visual character of the landscape and the quality of public views of the site and its surroundings would be less than significant.

KOP 2: Eagle Mountain Road

Contrasts associated with the Project would be somewhat muted on account of a greater distance from KOP 2 (greater relative to the Desert Sunlight and Desert Harvest Solar Farms) and the dark tones of solar panels would obscured by the underlying browns and tans of the valley floor. See Figure 3.2-8, KOP 2: Eagle Mountain Road. Resulting color and line contrasts due to Project operations would be weak and, as experienced from KOP 2, impacts to the existing visual character of the landscape and the quality of public views of the site and its surroundings would be less than significant.

KOP 3: Joshua Tree Wilderness

The Project (which would be partially visible through a narrow view corridor that, at KOP 3, is framed by two large shrubs/trees) would contribute dark and light grayish tones (solar field and ancillary components) and tan lines (site perimeter and access roads) to the middle ground landscape. These elements would attraction attention but, due to the presence of visually prominent mountain terrain in the background and existing contrasting elements on the valley floor, they would not dominate the landscape nor result in substantial degradation of existing visual character. Accordingly, impacts to visual character and view quality would be less than significant.

KOP 4: Kaiser Road

While the low, horizontal line of Project panel edges would be noticeable and present moderate contrasts, dark solar panels and the mostly gray ancillary components within the Project boundary would be softened by existing dark colors and muted tones in the landscape. Gen-tie poles and microwave tower would be visible but at KOP 4, however, they would be in the periphery of Kaiser Road motorists' views and would be silhouetted against distant terrain. See Figure 3.2-10, KOP 4: Kaiser Road. Overall, contrasts associated with the gen-tie would be attenuated by the presence of transmission and distribution lines in the surrounding landscape (including parallel to Kaiser Road) and the severity of the contrast would be lessened by view duration and limited visual exposure. At KOP 4, Project contrasts would be weak/moderate and, based on the anticipated visual change illustrated in the visual simulation from Kaiser Road, impacts would be less than significant.

KOP 5: Chuckwalla Valley Raceway Driveway at SR-177

From KOP 5, the Project would be experienced as a low, near continuous dark line across a portion of the middle ground landscape. See Figure 3.2-11, KOP 5: Chuckwalla Valley Raceway Driveway at SR-177. Solar panels would be partially blocked by vegetation in the foreground but the low, dark line of panels would create visible line and color contrasts in the existing landscape. Despite these contrasts, overall impacts would be moderated by the low number of annual viewers at KOP 5, the brief duration of the view, the lack of scale or spatial dominance of Project components, and by the presence of similar colors and lines in the landscape associated with the Athos I and II, Desert Harvest, and Desert Sunlight projects. Therefore, with consideration to the existing context of the Chuckwalla Valley visual landscape, impacts to visual character and view quality would be less than significant.

KOP 6: Desert Center Airport

At KOP 6, Project components would be blocked from view by intervening structures and vegetation. See Figure 3.2-12, KOP 6: Desert Center Airport. Because overall Project contrasts would not be visible and introduction of Project components would not be noticeable, no impacts to visual character and view quality would occur.

KOP 7: Desert Center Training Site and KOP 8: Shasta Drive – Lake Tamarisk Community

At KOPs 7 and 8, the middle ground valley landscape is almost entirely obscured and blocked by intervening vegetation. See Figure 3.2-13, KOP 7: Desert Center Training Site, and Figure 3.2-14, KOP 8: Shasta Drive – Lake Tamarisk Community. Once the Project is constructed and operating, solar panels would be detectable through narrow view corridors between foreground shrubs. Solar panels would create a low, dark grayish, discontinuous line in the landscape; however, these components and contrasts would be muted by distance and the dark colors of middle ground vegetation and terrain. Similarly, the

light gray vertical lines of gen-tie poles (and mostly horizontal lines of conductor line and the under hung fiber optic cable) and the onsite microwave tower would be visible but overall effects to the view would be muted by distance from KOP 7 to the Project site. Line and color contrasts would be weak and would not attract attention. Impacts would be less than significant.

KOP 9: I-10

As depicted in Figure 3.2-15, the introduction of solar panels and ancillary components on the Project site would result in muted, somewhat obscured color and line contrasts in the landscape. As the Project site and panels would be located lower in the landscape relatively to existing solar developments to the north, the line contrasts on the Project site would be partially concealed in views from I-10 (and would be partially blocked by intervening vegetation in the view). In addition, color contrasts associated with exposed tan soils at the Project site surface would be muted by distance and intervening terrain. The Project substation and BESS are within the KOP 9 viewshed but, due to distance from I-10 and the horizontal footprint of the solar panels, the visual prominence and contrasts of these facilities is diminished. Based on the degree of visual change depicted in the photographic simulations and when experienced over a limited duration within the context of existing solar development in western Coachella Valley, impacts would be less than significant.

KOP 10: North Chuckwalla Mountains Petroglyph District

When experienced from the elevated vantage point of KOP 10, introduction of the Project on the valley floor would create moderate color contrast. See Figure 3.2-16. While the form of individual solar panels would not be clear, the installation of panels and ancillary components would appear as a broad, dark, and flat geometric form that would stand out against the muted tones of desert terrain and vegetation. In addition, access roads and the denuded perimeter around the solar field would create moderate color and line contrasts. Due to proximity, the color of Project solar panels would be more distinct than more distant panels of solar development to the north and, as a result, strong contrasts are anticipated. Therefore, when viewed from KOP 10, impacts would be potentially significant absent mitigation measures.

While MM VIS-1 (Project Design; see Section 3.2.4, Mitigation Measures, below) would be implemented to reduce the visual contrast of perceptible landscape alteration, the degree of contrast associated with solar panels at KOP 10 would be strong and, thus, **significant and unavoidable**. There is no known mitigation that if implemented would soften the color contrasts associated with solar panels at KOP 10 due to the lack of screening elements between the KOP and Project site. Because the Applicant lacks site control at KOP 10, implementation of landscape screens to block the anticipated color contrast is not feasible.

Threshold d: Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

LESS THAN SIGNIFICANT.

Lighting

Construction and Decommissioning

Construction and decommissioning of the Project would not create a new source of substantial light or glare. As previously stated, construction work schedules are expected to be at least 8 hours per day Monday through Friday, excluding federal holidays. Typically, the workday would consist of one shift beginning as early as 6:00 a.m. and ending as late as 7:00 p.m. Additional hours and/or nighttime work and weekend work (Saturdays and Sundays) may be necessary to make up schedule deficiencies, or to

complete critical construction activities (e.g., PV block construction, foundation pouring, or working around time-critical shutdowns and constraints). Needed nightwork would require use of mobile or other temporary light sources to facilitate construction activities during night hours. Use of night lighting during site closure and decommissioning and reclamation activities may also be required. While nightwork would require the use of lighting, lighting would be directed downwards, shielded to the greatest extent feasible, and limited to the amount necessary to perform the required work. Downward direction and shielding of temporary light fixtures, combined with limited durational use, is intended to minimize sources of excessive or diffused brightness (glare) during night-time activities and to reduce the likelihood of a potential nuisance to the adjacent public (light trespass) in compliance with County of Riverside Ordinance 915 (Regulating Outdoor Lighting), Therefore, lighting and glare impacts during construction would be less than significant.

Operations

There are no state regulations regarding glare effects associated with the operation of solar panels and, except for SR-177 that briefly abuts a portion for Project site, there are no sensitive viewers in the immediate vicinity of the Project site. The closest off-site sensitive receptor to the Project site is a residence located 0.4 miles (2,115 feet) east of the Project site along the west side of SR-177. The County of Riverside Code of Ordinances regulates outdoor lighting and specifically inadequately shielded outdoor lighting for purposes of reducing light trespass (refer to Title 8, Chapter 8.80, Outdoor Lighting). The general standard established in Chapter 8.80 requires all outdoor luminaires be "located, adequately shielded, and directed such that no direct light falls outside the parcel of origin." While the County has not established a numerical light trespass value for parcels adjacent to the parcel of origin that would indicate when direct lighting is considered unacceptable/significant; (no threshold is identified in a known County ordinance), County has required that the Project prepare a photometric study that depict zero light spillage below the property line (refer to Appendix A in Appendix D, Visual Resources Report).

On the Project site, outdoor lighting sources are anticipated to be installed at the Project entrance/driveway, parking area, Project substation, BESS enclosure area, and O&M building. During normal operations, lighting would typically be turned off and would only be utilized if needed (such as during needed/emergency maintenance or other required nighttime event). For these lighting sources, lamps/lights would be shielded and directed downward. According to the Photometric Lighting Study for the Project prepared by Michael Baker International, light levels associated with on-site lighting source would be zero (0) footcandles at the Project site boundary and on-site lighting would not directly illuminate any adjacent properties or nearby roadways (refer to Appendix B in Appendix D, Visual Resources Report). As such, impacts would be less than significant.

Glare

Construction

During the 12- to 18-month construction phase, activities would generally occur Monday through Friday between 6:00 AM to 6:00 PM. However, to meet schedule demands or to reduce impacts, it may be necessary to work early mornings, evenings, or nights and on weekends during certain construction phases for the Solar Project. If construction work takes place outside typical hours, restricted lighting would be used. Specifically, lighting would include only what is needed to provide a safe workplace, and lights would be focused downward, shielded, and directed toward the interior of the site. Shielded and downward directed light would minimize the potential for visible glare at off-site public viewing locations. Further, both the anticipated infrequent nature of nighttime (or early morning) construction activities and the focused use of lighting on active construction areas would also limit the potential for substantial glare

to be received at off-site public viewing locations. During daytime hours, the presence of construction equipment/vehicles on the Solar Project site and local area roads may temporarily generate glare due to the reflection of sunlight off equipment/vehicle exteriors. However, any generated glare would be temporary and fleeting from any single public viewing location. In addition, most receptors in the surrounding area would have partially screened views to Solar Project site. Lastly, intervening vegetation and structures, as well as distance, would obscure project construction equipment/vehicles. Therefore, temporary glare impacts during construction would be less than significant.

Operations

While solar panels would be uniformly dark in color, they would also be nonreflective and designed to be highly absorptive of all light that strikes their glass surfaces. Other Project components, including the on-site substation, inverters, BESS enclosures, microwave tower, and the gen-tie line (and under hung fiber optic cable), would be constructed of steel and/or other metallic materials and, depending on daily atmospheric conditions, may be sources of daytime glare.

According to the Glare Analysis Report prepared for the Project (refer to Appendix B in Appendix D, Visual Resources Report), Project-generated glare could be perceptible during brief portions of the day during certain times of year along public roads in the area including Airport Road, Eagle Mountain Road, Kaiser Road, and SR-177. The Glare Analysis Report indicated that no glare would be received on I-10. The Glare Analysis Report noted that the hazard level of glare potentially visible from local roads near the Project site would be less than glare associated with smooth water under conservative assumptions. Further, and as discussed previously, solar panels are designed to be highly absorptive of incoming light and anti-reflective coatings are typically applied (and would be applied Project solar arrays) to reduce potential reflectivity and effects to daytime views in the vicinity. Based on the relatively low volume of viewers on local public roads that could receive glare during operations, the brief duration of glare exposure and low hazard level of anticipated glare, Project solar arrays would not create substantial glare that would adversely affect daytime views in the area. Impacts would be less than significant. Project components, including on-site substation, inverters, BESS enclosures, microwave tower, and the gen-tie line (under hung fiber optic cable), would have limited visibility from public roads. Due to their limited visibility and secondary nature of these components relative to solar panels, non-solar panel Project components do not have potential for significant glare and were not assessed in the Glare Analysis Report (Appendix B in Appendix D, Visual Resources Report). As such, potential glare impacts associated with these components would be less than significant.

The Glare Analysis Report (Appendix B in Appendix D, Visual Resources Report) concluded that the Project would have minimal glare impacts to the adjacent Desert Center Airport. Specifically, the Project could result in “Green” glare (low potential to cause temporary after image) to the two-mile approach path to runway 23 at Desert Center Airport, a low-activity private-use runway. The predicted glare is expected to occur for up to 3 minutes per day in the late afternoon hours from late March through mid-May and from early July through mid-September. However, there was no glare predicted for the approach to runway 5 at Desert Center Airport.

Furthermore, the Glare Analysis Report (Appendix B in Appendix D, Visual Resources Report) included five flight path receptors representing Military Training Routes in the vicinity of the Project. These Military Training Routes were selected due to their buffered widths falling within two nautical miles of the proposed PV arrays. Each route was analyzed at three elevations: lower altitude limit, middle altitude, and upper altitude limit, which resulted in 15 analyzed flight vectors. The Glare Analysis Report concluded that all 15 of the Military Training Routes analyzed are predicted to receive glare in the “Green” ocular impact category (low potential for after-image), and 11 of the 15 are predicted to receive glare in the “Yellow” ocular impact category (potential for after-image). The estimated durations of “Green” glare

towards the MTR's ranged between approximately 10 to 150 minutes per day, on average, and the estimated durations of "Yellow" glare towards the MTR's ranged between approximately 5 to 50 minutes per day, on average, with durations varying depending on the altitude of the flight. The FAA has concluded that glare from solar installations is similar to other reflective surfaces like water bodies and glass buildings that pilots regularly encounter (FAA 2021).Lastly, nighttime lighting would be limited to areas required for operation, safety, or security, such as the on-site substation and O&M building on the solar site. On the solar site, nighttime lighting would be directed or shielded from major roadways or possible outside observers. Motion sensitive, directional security lights would be installed to provide adequate illumination around the perimeter of the solar site. Exterior lights would be hooded, and lighting would be shielded and directed downward to minimize glare. The Project would use portable lighting for any emergency work that must occur on panels at night. The level and intensity of lighting during operations would be the minimum needed. Portable lighting may be used occasionally and temporarily for maintenance activities during operations. Because lighting on the Solar Project site would be limited, downward directed, shielded, controlled via motion sensors (applicable to perimeter lighting), and use of emergency lighting for nighttime work would be infrequent, site lighting would not adversely affect nighttime views in the area. It should also be noted that existing solar facilities in the area are likely to feature similar sources of operational lighting that contribute to the existing nighttime environment.

Decommissioning

Because decommissioning of the Project would generally represent the reverse of the construction process, involving the same equipment and activities as Project construction, decommissioning of the Project would be anticipated to result in the same potential for temporary glare impacts as described above under the Construction heading. Therefore, temporary glare impacts during decommissioning would be less than significant.

Threshold e: Would the project have a substantial effect upon a scenic highway corridor within which it is located?

LESS THAN SIGNIFICANT. While SR-177 and I-10 are not included in the State Scenic Highway System, I-10 is a County Eligible Scenic Highway. Due to its County Eligible Scenic Highway designation, I-10 is considered a Scenic Highway corridor for purposes of this analysis. SR-177 is not identified by the County as a scenic corridor and, therefore, effects to views from SR-177 are not assessed below.

Project-related impacts on the views of I-10 motorists would generally be weak. Construction vehicles and equipment within the Project site would be difficult to detect from the interstate and gradual visual change in the landscape would be partially blocked by intervening vegetation. Project activities would generally be within the peripheral viewing angle of interstate motorists and temporary construction effects would be experienced over a brief duration of time. Once constructed and operating, the introduction of solar panels and associated components on the Project site would result in muted, somewhat obscured color and line contrasts in the landscape. See Figure 3.2-15. As shown in the visual simulation, the visual prominence and contrasts resulting from the introduction of Project components would not have a substantial effect on views from the interstate. Furthermore, and as experienced from interstate vehicles, solar panels and other Project components would be experienced over a limited duration of time. Potential impacts resulting from decommissioning and reclamation activities would generally be similar to impacts anticipated during the Project's construction phase. The Project would result in less-than-significant impacts to a state Scenic Highway corridor.

Threshold f: Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and unique or landmark features; obstruct any prominent scenic vista or view open to the public; or result in the creation of an aesthetically offensive site open to public view?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The Project site does not contain sensitive tree species, notable rock outcroppings, or unique or landmark features. As such and within the context of Threshold "f," construction, operation, and decommissioning would not result in substantial damage to existing scenic resources. Further and as previously assessed under Threshold "a," the potential for impaired views during construction would be reduced to less than significant with implementation of MM AQ-2 and, during operations, the Project would not result in substantial view interruption or degradation. Impacts would be less than significant. Lastly, as the landscape of the western Coachella Valley has been noticeably altered in recent years by the development of commercial solar facilities, the introduction of solar panels and other associated components associated with the Project would result in impacts and contrasts like those created by existing, nearby solar facilities. As a result, operation of the Project would not result in an aesthetically offensive site.

Threshold g: Would the project interfere with the nighttime use of the Mt. Palomar Observatory, as protected through Riverside County Ordinance No. 655?

LESS THAN SIGNIFICANT. The Project site is located approximately 90 miles from the Mt. Palomar Observatory. Due to the distance and the presence of intervening natural topography, the Project site is not within the viewshed of the observatory. Further, a direct line of sight from the observatory to the Project site is not available due to the presence of multiple intervening mountain ranges. Therefore, based on the distance and the presence of intervening features between the Project site and Mt. Palomar Observatory, and based on an assumed limited number of outdoor lights installed on the Project site (i.e., lights at entrance gates/driveway, lighting installed near the substation and O&M building), no adverse effects to the observatory and astronomical observation and research are expected. Therefore, impacts to the Mt. Palomar Observatory would be less than significant.

Threshold h: Would the project expose residential property to unacceptable light levels?

LESS THAN SIGNIFICANT.

The closest off-site sensitive receptor to the Project site is a residence located 0.4 miles (2,115 feet) east of the Project site along the west side of SR-177. On the Project site, outdoor lighting sources are anticipated to be installed at the Project entrance/driveway, parking area, Project substation, BESS enclosure area, and O&M building. During normal operations, lighting would typically be turned off and would only be utilized if needed (such as during needed/emergency maintenance or other required nighttime event). For these lighting sources, lamps/lights would be shielded and directed downward. According to the Photometric Lighting Study for the Project prepared by Michael Baker International, light levels associated with on-site lighting source would be zero (0) footcandles at the Project site boundary and on-site lighting would not directly illuminate any adjacent properties or nearby roadways (refer to Appendix B in Appendix D, Visual Resources Report). Because zero footcandles are anticipated at the Project site boundary, the Project would not expose residential property to unacceptable light levels. Impacts would be less than significant.

Cumulative Impacts

Geographic Scope. The geographic scope of the cumulative analysis for aesthetics-related impacts would be all cumulative projects identified in Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario. This geographic area was selected because identified projects are

within the viewshed of the Project (and/or have contributed the altered landscape of the western Chuckwalla Valley area) and receptors in the area could be exposed to views of all identified projects.

Cumulative Impacts. Although numerous existing cultural modifications are visible along the I-10 corridor and in the Desert Center area of the Chuckwalla Valley (transmission lines; substations; pipelines; solar projects; 4-wheel drive tracks; widely scattered commercial buildings, dilapidated structures, and roadside signs; and a few agricultural operations), the large scale of the open desert panoramas impart an overall general impression of a relatively unimpaired, isolated desert landscapes. The cumulative scenario includes many large-scale solar plants and transmission lines whose scale and pervasiveness would have adverse cumulative effects. If all the projects were implemented, they would substantially degrade the visual character and general scenic appeal of the existing landscape, resulting in the conversion of a once relatively undeveloped desert landscape into a more industrialized appearance. In some viewing cases, the visibility and apparent scale of the projects would be diminished somewhat by favorable topographic relationships and vegetative screening. For other viewing opportunities, some projects would appear reduced in visual prominence due to their viewing distances and low angle of view. In still other cases, projects would blend in with the vegetation or horizon line of the valley floor, and the rugged mountains would remain the dominant visual features in the landscape.

As a result, the Project in combination with the several surrounding energy projects would result in significant cumulative visual impacts when viewed by sensitive viewing populations along I-10 and SR-177, from nearby residences, and in the surrounding mountains and wilderness. Impacts would result from the introduction of substantial visual contrast associated with discordant geometric patterns in the landscape; large-scale, built facilities with prominent industrial character; unnatural lines of demarcation in the valley floor landscape; inconsistent color contrasts; and visible night lighting within the broader Chuckwalla Valley. For many travelers along I-10, the scenic experience would be degraded due to visible solar development in the landscape. Overall, the Project combined with the cumulative projects would result in a significant cumulative impact on visual resources. Although the Project would implement MM VIS-1, which would reduce the severity of the Project's impacts to visual resources, the Project's contribution to the significant cumulative impact would remain cumulatively considerable.

3.2.4 Mitigation Measures

The following Mitigation Measure was developed to substantially lessen the significant effects to aesthetics expected to result from the construction, operation, maintenance, and decommissioning of the Project.

MM VIS-1 Project Design. To the extent possible, the Applicant or Project owner/operator shall implement proper design fundamentals to reduce the visual contrast to the landscape. Design strategies to address these fundamentals may include the following:

- The boundaries of all areas to be disturbed shall be delineated with stakes and flagging before construction, in consultation with the Designated Biologist, County Visual specialist, and the Bureau of Land Management Visual Resource Management specialist.
- Spoils and topsoil where feasible shall be stockpiled in disturbed areas approved by the Designated Biologist.
- All disturbances, Project vehicles, and equipment shall be confined to the flagged areas.
- Where retention of vegetation is not possible, vegetation along roadways and boundaries of other disturbed areas shall be scalloped (refers to incorporating irregular [i.e., non-straight] edges of vegetation to make edges/transitions between managed and non-managed areas appear more natural) and feathered (refers to thinning edges of

vegetation to make transitions from vegetated to non-vegetated area softer and less abrupt) to reduce the hard line visual impact, especially as seen from State Route 177, Interstate 10, and the North Chuckwalla Mountains Petroglyph District.

- New and existing roads that are planned for construction, widening, or other improvements:
  - Roads shall not extend beyond the minimum necessary and shall be flagged as described above.
  - All vehicles passing or turning around shall do so within the planned impact area or in previously disturbed areas.
  - Where new access is required outside of existing roads or the construction zone, the route shall be clearly marked (i.e., flagged or staked) before the onset of construction.
- Disturbed area will be minimized to the extent feasible and efforts will be made to blend the disturbed areas into the characteristic landscape.
  - Where feasible, replace soil, brush, rocks, and natural debris over disturbed area.

3.2.5 References

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Figure 3.2-1 Key Observation Points

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Figure 3.2-2 KOPs 1 and 2: Existing Conditions

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Figure 3.2-3 KOPs 3 and 4: Existing Conditions

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Figure 3.2-4 KOPs 5 and 6: Existing Conditions

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Figure 3.2-5 KOPs 7 and 8: Existing Conditions

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Figure 3.2-6 KOPs 9 and 10: Existing Conditions

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Figure 3.2-7 KOP 1: Dragon Wash Site

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Figure 3.2-8 KOP 2: Eagle Mountain Road

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Figure 3.2-9 KOP 3: Joshua Tree Wilderness

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Figure 3.2-10 KOP 4: Kaiser Road

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Figure 3.2-11 KOP 5: Chuckwalla Valley Raceway Driveway at SR-177

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Figure 3.2-12 KOP 6: Desert Center Airport

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Figure 3.2-13 KOP 7: Desert Center Training Site

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Figure 3.2-14 KOP 8: Shasta Drive - Lake Tamarisk Community

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Figure 3.2-15 KOP 9: Interstate 10

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Figure 3.2-16 KOP 10: North Chuckwalla Mountains Petroglyph District

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3.3 Agriculture and Forest Resources

This section includes an analysis of the impacts to agriculture and forest resources that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning of the proposed project (Project). The analysis in this section describes the applicable regulations, presents an overview of existing conditions that influence agriculture and forestry, identifies the criteria used for determining the significance of environmental impacts, and describes the Project's potential impacts to agriculture and forest resources.

3.3.1 Regulatory Framework

Federal Laws, Regulations, and Policies

Federal Farmland Protection Policy Act. The Farmland Protection Policy Act (FPPA) (7 USC Section 4201 et seq.) aims to reduce federal programs' contribution 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 farmland. Under the FPPA, the term "farmland" includes Prime Farmland, Unique Farmland, and Farmland of Statewide or Local Importance. Farmland that is subject to FPPA requirements does not have to be currently used as cropland. It can be forestland, pastureland, or other land but not urban and built-up land or water. FPPA ensures that, to the extent possible, federal programs are administered to be compatible with state and local units of government, and private programs and policies to protect farmland.

State Laws, Regulations, and Policies

California Land Conservation Act of 1965 (Williamson Act). The purpose of the Williamson Act is to preserve California's agricultural lands from urbanization. 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 land conservation contract (known as a Williamson Act contract). The Williamson Act program is administered by the California Department of Conservation (DOC), in conjunction with local governments that administer the individual contract arrangements with landowners. Under the Williamson Act, contracts restrict specific parcels of land to agricultural and open space uses for a minimum of 10 years. 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 (DOC 2023a). Pursuant to the provisions of Government Code Section 51243(b), the contract is binding upon, and inures to the benefit of, all successors in interest of the owner. Additionally, the contract is binding until its expiration and/or nonrenewal, or until a property owner petitions the County Board of Supervisors to grant cancellation and the County Board of Supervisors grants cancellation pursuant to procedures enumerated in Government Code Section 51280 et seq.

California Government Code Section 51238 states that, unless otherwise decided by a local board or council at a noticed public hearing, the erection, construction, alteration, or maintenance of electric and communication facilities (among other types of uses not relevant here), are compatible uses within any Agricultural Preserve.

Farmland Mapping and Monitoring Program. The California DOC established the Farmland Mapping and Monitoring Program (FMMP). The purpose of the FMMP is to identify important statewide maps of

agricultural lands and provide a database to record and report changes of the agricultural lands. The FMMP produces Important Farmland Maps, which include resource quality (soils) and land use information updated every 2 years. The maps are updated with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland (DOC 2023b). The following agricultural categories are mapped:

- **Prime Farmland.** Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- **Farmland of Statewide Importance.** Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- **Unique Farmland.** Farmland or lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the 4 years prior to the mapping date.
- **Farmland of Local Importance.** Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory board 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 interested in the extent of grazing activities.

The most recent agricultural land conversion data available for Riverside County (County) are from the 2-year period from 2016 to 2018, which is shown below in Table 3.3-1.

Table 3.3-1. Riverside County Agricultural Land Conversion 2016 to 2018

Land Use Category	Total Acreage Inventoried		2016 to 2018 Acreage Changes			
	2016	**2018**	**Acres Lost (-)**	**Acres Gained (+)**	**Total Acreage Changed**	**Net Acreage Changed**
Prime Farmland	117,486	116,926	2,204	1,644	3,848	-560
Farmland of Statewide Importance	43,757	43,610	629	482	1,111	-147
Unique Farmland	32,566	32,121	1,206	761	1,967	-445
Farmland of Local Importance	226,029	221,201	7,881	3,053	10,934	-4,828
Grazing Land	110,202	109,857	456	111	567	-345
Agricultural Land Subtotal	**530,040**	**523,715**	**12,376**	**6,051**	**18,427**	**-6,325**

Source: DOC 2018.

As described in the table above, for the 2-year period from 2016 to 2018, the County had a decrease of 6,325 acres in the total amount of active agricultural land mapped by the FMMP.

Local Laws, Regulations, and Policies

Riverside County General Plan. The purpose of the Agriculture Resources section in the Land Use Element of the Riverside County General Plan is to identify and preserve areas where agricultural uses are the long-term desirable use and minimize the conflicts between agricultural and non-agricultural areas. The following policies included in the Land Use Element generally apply to the Project with regards to agricultural resources (County of Riverside 2021a).

- **Policy LU 7.1.** Require land uses to develop in accordance with the General Plan and area plans to ensure compatibility and minimize impacts.
- **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 LU 20.6.** Require consideration of state agricultural land classification specifications when a 2.5-year Agriculture Foundation amendment to the General Plan is reviewed that would result in a shift from an agricultural to a non-agricultural use.
- **Policy LU 20.7** Adhere to Riverside County's Right-to-Farm Ordinance.

The purpose of the Agriculture Resources section of the Multipurpose Open Space Element of the Riverside County General Plan is to protect and preserve agricultural lands. The following policy included in the Multipurpose Open Space Element relates to the Project with regards to agricultural resources (County of Riverside 2015a).

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

Desert Center Area Plan. The purpose of the Land Use section in the Desert Center Area Plan is to strengthen and/or preserve the identity, character, and features unique to the Desert Center area. The following policy relates to the Project with regards to agricultural resources (County of Riverside 2021b).

- **Policy DCAP 3.1.** Protect farmland and agricultural resources in Desert Center through adherence to the Agricultural Resources section of the General Plan Multipurpose Open Space Element and

the Agriculture section of the General Plan Land Use Element, as well as the provisions of the agriculture land use designation.

Riverside County Ordinance No. 509, Establishing Agricultural Preserves. Agricultural preserves are lands identified for, and devoted to, agricultural and compatible uses and are established through resolutions adopted by the County Board of Supervisors. The purpose of this ordinance is to ensure that incompatible uses are not allowed within established agricultural preserves. It sets forth the powers of the County in establishing and administering agricultural preserves pursuant to the California Land Conservation Act of 1965 (Government Code Section 51200, et seq.). The ordinance also establishes "Uniform Rules" for the agricultural and compatible uses allowed in an agricultural preserve. Land uses not covered in the ordinance are prohibited within agricultural preserves.

Riverside County Ordinance No. 625, the "Right to Farm" Ordinance. The purpose of the Ordinance No. 625 is to reduce the loss of agricultural resources by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance. It was enacted to conserve, protect, and encourage the development, improvement, and continued viability of agricultural land.

Riverside County Ordinance No. 348.4705. Ordinance No. 348.4705 permits a solar power plant in several districts, including agricultural districts, with a use permit. Ordinance No. 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."

Resolution No. 84-526, Riverside County Rules and Regulations Governing Agricultural Preserves. These rules and regulations were adopted pursuant to California Government Code Section 51231 to govern agricultural preserve procedures within the County and to aid in implementation of the Williamson Act. The rules and regulations address procedures for the initiation, establishment, enlargement, disestablishment, and diminishment of agricultural preserves. To protect existing agricultural lands and agricultural preserves within the County, Division VI of these rules requires a "Comprehensive Agricultural Preserve Technical Advisory Committee" (CAPTAC) to review and report on land use proposals and applications related to agricultural preserves and advise the County Board of Supervisors on the administration of agricultural preserves, as well as Williamson Act contract-related matters. In particular, the CAPTAC is charged with reviewing any proposals for the diminishment or disestablishment of an agricultural preserve and providing its recommendations to the Board of Supervisors. Regarding diminishments and disestablishments, the CAPTAC reviews the following findings:

- Whether a notice of nonrenewal has been served pursuant to the Williamson Act, Section 401 of these rules
- Whether the cancellation is likely to result in the removal of adjacent lands from agricultural use
- Whether the proposed alternative use of land is consistent with the provisions of the Riverside County General Plan
- Whether the cancellation will result in discontiguous patterns of urban development
- Whether there is proximate non-contracted land that is both available and suitable for the use for which the contracted land is being proposed
- Whether the development of the contracted land would provide more contiguous patterns of urban development than that of proximate non-contracted land

3.3.2 Environmental Setting

The economy of the County is strongly based on agriculture. According to the annual Riverside County Agricultural Production Report (2021), the County produced an estimated total gross value of $1,405,910,000 of agricultural products in 2021. The top 10 commodities for the County in 2021 are shown below in Table 3.3-2 (County of Riverside 2021c).

Table 3.3-2. Top 10 Commodities for Riverside County 2021

2020 Ranking	Commodity	Total Value (USD)
1	Nursery Stock	$232,560,000
2	Milk	$174,800,000
3	Table Grapes	$87,378,000
4	Dates	$83,320,000
5	Avocados	$80,100,000
6	Alfalfa	$75,312,000
7	Eggs	$69,377,000
8	Lemons	$68,172,000
9	Bell Peppers	$67,500,000
10	Turf Grass	$32,500,500

Source: County of Riverside 2021c.

Site Description and Vicinity

The Project is located within the Desert Center Area Plan Boundary of the Riverside County General Plan. Land uses near the Project site include aquaculture, transportation (Kaiser Road, Rice Road/State Route 177, Chuckwalla Valley Raceway and Desert Center Airport), active and fallow agricultural lands, renewable energy (both existing and proposed), energy transmission, a landfill and unprogrammed recreational and wilderness areas. The community of Lake Tamarisk is located approximately 1.28 miles from the Project site at its nearest point. Many of the lands surrounding the Project site have either been approved for or are in the planning stages of development for solar or energy facilities. This area of the county is recognized as having solar resources suitable for renewable energy development.

The Project (specifically the solar site) would be constructed within private land designated as Open Space, Rural, and Agriculture and zoned A-1-20 Light Agriculture and W-2-10 Controlled Development Areas (Figure 2-5, Riverside County Zoning). The Linear Facility Routes (LFRs) are on Bureau of Land Management-administered lands located within a Development Focus Area (DFA) for solar, wind, and geothermal projects as designated by the Desert Renewable Energy Conservation Plan (DRECP) (Figure 2-2, DRECP Renewable Energy Focus Areas).

The Project site does not currently support active agricultural activity. Private lands within the Project site formerly supported mixed-use agricultural practices, including cultivating jojoba and aquaculture farming. Based on available U.S. Department of Agriculture Natural Resources Conservation Service crop data, agricultural operations have not occurred on site for at least 14 years (2008 is the last year crop data for the Project site are available) (U.S. Department of Agriculture 2022). In its existing condition, the Project site consists of fallow jojoba fields and a semi-developed/aquaculture area within the western portion of the site. Scattered dead jojoba shrubs and two mid-twentieth century water pumps associated with the fallow

agriculture fields remain within the Project site. Former agricultural practices within the Project site have greatly modified the natural hydrology. Portions of the prior aquaculture farm support relic aquatic features including open water basins, artificial or human-made wetlands, and non-native riparian areas (Appendix C, Biological Resources Technical Report, and Appendix I, Phase I Cultural Resources Assessment).

Although the majority of the surrounding area is not currently used for agricultural purposes, nor have been used for agricultural purposes for several years, there is an active aquaculture facility to the west and active agricultural operations to the east of the Project site.

The Project site does not currently support active agricultural activity; however, portions of the private lands associated with the Project, specifically APN 808-240-001, 808-240-005, 808-240-006, 808-240-009 through 808-240-016, 808-250-001 through 808-250-016, and 811-270-008 through 811-270-012 are located on lands subject to active Williamson Act contracts. The areas enrolled in Williamson Act contracts were established as Riverside County Agricultural Preserves in 1987 by the County Board of Supervisors via Resolution No. 87-33 for Chuckwalla Agricultural Preserve No. 2, Map No. 622, and Resolution No. 87-57 for Chuckwalla Agricultural Preserve No. 3, Map No. 629. As part of the County's Williamson Act contract cancellation process, the parcels under a Williamson Act contract within the Project site would be removed from the County's Agricultural Preserves.

In its existing condition, Chuckwalla Agricultural Preserve No. 2 includes approximately 577.61 acres. As part of the Williamson Act contracts cancellation, the Project would remove approximately 537.44 acres, leaving approximately 40.17 acres remaining within Chuckwalla Agricultural Preserve No. 2. In its existing condition, Chuckwalla Agricultural Preserve No. 3 includes approximately 236.10 acres. As part of the Williamson Act contracts cancellation, the Project would remove approximately 102.04 acres, leaving approximately 134.06 acres remaining within Chuckwalla Agricultural Preserve No. 3. However, due to adjacent developments, the removal of an additional 134.06 has been requested and therefore the Project would result in the disestablishment of Agricultural Preserve No. 3.

Forest Land

The Project site is not designated as forest land or zoned as forest land, timberland, or lands zoned for timberland production. There is no land in the vicinity of the Project that is zoned as forest land, timberland, or lands zoned for timberland production.

3.3.3 Impact Analysis

Methodology

The existing General Plan, review of aerial photographs, and state farmland maps were used to evaluate known agricultural, timberland, and/or forest resources located within the Project area.

Criteria for Determining Significance

Section II of Appendix G to the California Environmental Quality Act (CEQA) Guidelines addresses typical adverse effects to forestry and agricultural resources and includes the following threshold questions to evaluate a project's impacts on forest and agricultural resources. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

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

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

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Significance thresholds are set forth in the County's Environmental Assessment Checklist, are derived from Section II of Appendix G to the State CEQA Guidelines (listed above), and state that the proposed project would have a significant impact on forestry or agricultural resources if construction and/or operation of the project would:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

b) Conflict with existing agricultural zoning, agricultural use or with land subject to a Williamson Act contract or land within a Riverside County Agricultural Preserve.

c) Cause development of non-agricultural uses within 300 feet of agriculturally zoned property (Ordinance No. 625 "Right-to-Farm").

d) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

e) 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)).

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

g) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use.

Environmental Impacts

This section includes an examination of the Project's impacts to agriculture and forest resources per the County's Environmental Assessment Checklist and Appendix G of the State CEQA Guidelines identified above.

Threshold a: Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

NO IMPACT. DOC runs the FMMP to produce maps and statistical data on California's agricultural resources. Agricultural lands within each county are rated on their production value according to soil quality and irrigation status to produce maps that are updated every 2 years. The maps also incorporate soils data issued by the Natural Resources Conservation Service (NRCS), a branch of the U.S. Department of Agriculture. According to DOC's FMMP, the Project site is in an area that is not mapped (Figure 3.3-1, Farmland Monitoring and Management Plan). It is specifically classified as the following:

Area not mapped (Z): Area which falls outside of the NRCS soil survey. Not mapped by the FMMP.

Accordingly, the Project would not convert any land designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (i.e., FMMP-designated Farmland) to a non-agricultural use, and no impact would occur.

Threshold b: Would the project conflict with existing agricultural zoning, agricultural use or with land subject to a Williamson Act contract or land within a Riverside County Agricultural Preserve?

LESS THAN SIGNIFICANT. The majority of the Project, approximately 1,082 acres, would be located on private lands under the County's jurisdiction. Portions of the private lands associated with the Project, specifically the Assessor's Parcel Numbers (APNs) listed below in Table 3.3-3, are classified as one or more of the following: zoned as A-1-20 Light Agriculture, enrolled in a Williamson Act contract and/or located within a Riverside County Agricultural Preserve. Although portions of the Project site are currently enrolled under a Williamson Act contract, are within a County Agricultural Preserve, and/or are within the County's Light Agricultural Zone – A-1-20, agricultural operations are not currently occurring on the site. As previously noted, based on available U.S. Department of Agriculture Natural Resources Conservation Service crop data, agricultural operations have not occurred on site for at least 14 years (2008 is the last year crop data for the Project site are available) (U.S. Department of Agriculture 2022).

Zoning

As listed in Table 3.3-3 below, private lands associated with the Project are zoned as A-1-20 Light Agriculture and W-2-10 Controlled Development Areas (Figure 2-5). The Project includes approximately 718.23 acres of land zoned as A-1-20 Light Agriculture and approximately 359.19 acres of land zoned as W-2-10 Controlled Development Areas (excluding existing road rights of way). In accordance with County Ordinance No. 348, solar power plants on lots 10 acres or larger are permitted through a Conditional Use Permit (CUP) within the A-1-20 Light Agricultural and W-2-10 Controlled Development Areas zoning designations (County of Riverside 2021a). The Applicant is seeking a minimum 39-year CUP and Public Use Permit for the construction, operation, and decommissioning of the proposed solar facility and gen-tie line, as well as a Public Use Permit for portions of the gen-tie line that would traverse County roads (Osborne Road and Kaiser Road). Therefore, the Project does not conflict with the zoning designations and no zoning amendments are required.

Agricultural Use

As discussed in above in Section 3.3.2, Environmental Setting, the Project area formerly supported mixed-use agricultural practices, including cultivating jojoba and aquaculture farming. In its existing condition, the Project site consists of scattered fallow jojoba fields, as well as a semi-developed/aquaculture facility. The semi-developed/aquaculture facility is located west of the Project site and extends east into the into the western portion of the Project site. The portion of the semi-developed/aquaculture facility that is located outside and to the west of the Project site is operational. The portion of the semi-developed/aquaculture facility that is located within the western portion of Project site is non-operational. The owner of the semi-developed/aquaculture facility is anticipated to sell the portion of the facility that is non-operational and located within the western portion of the Project site to the Applicant for solar use. Therefore, the Project would not conflict with a current agricultural use.

Williamson Act Contract

Portions of the Project site are currently enrolled under California Land Conservation Act contracts (Williamson Act contracts) between the current property owner and the County pursuant to the provisions of Government Code Sections 51240 et seq. The Project would request Williamson Act contracts cancellations for all APNs within the Project site that are currently enrolled in a Williamson Act

contract (refer to Table 3.3-3 below). The Project would remove approximately 639.48 acres of land from Williamson Act contracts. Williamson Act contracts would be subject to the County's Williamson Act contract cancellation process and Government Code Sections 51280–51287. Therefore, the Project would not conflict with a Williamson Act contract.

County Agricultural Preserve

The areas enrolled in Williamson Act contracts were established as Riverside County Agricultural Preserves in 1987 by the County Board of Supervisors via Resolution No. 87-33 for Chuckwalla Agricultural Preserve No. 2, Map No. 622, and Resolution No. 87-57 for Chuckwalla Agricultural Preserve No. 3, Map No. 629. Parcels within the Project site that are located within a County Agricultural Preserve are shown in Figure 3.3-2, Agricultural Preserves. As part of the County's Williamson Act contract cancellation process, the parcels under a Williamson Act contract within the Project site would be removed from the County's Agricultural Preserves (refer to Table 3.3-3 below).

In its existing condition, Chuckwalla Agricultural Preserve No. 2 includes approximately 577.61 acres. As part of the Williamson Act contracts cancellation, the Project would remove approximately 537.44 acres, leaving approximately 40.17 acres remaining within Chuckwalla Agricultural Preserve No. 2. In its existing condition, Chuckwalla Agricultural Preserve No. 3 includes approximately 236.10 acres. As part of the Williamson Act contracts cancellation, the Project would remove approximately 102.04 acres, leaving approximately 134.06 acres remaining within Chuckwalla Agricultural Preserve No. 3. However, due to adjacent developments, the removal of an additional 134.06 has been requested and therefore the Project would result in the disestablishment of Agricultural Preserve No. 3.

Because the Project site would be removed from the County's Agricultural Preserves upon cancellation of the Williamson Act contracts, the Project would not conflict with land within a Riverside County agricultural preserve. In any event, as noted above in Section 3.3.1, Regulatory Framework, the erection, construction, alteration, or maintenance of electric and communication facilities are compatible uses within any Agricultural Preserve pursuant to California Government Code Section 51238.

In conclusion, the Project would not conflict with existing zoning, agricultural use, or with land subject to a Williamson Act contract or land within an Agricultural Preserve and impacts would be less than significant.

Table 3.3-3. Private Lands Located in an Agricultural Preserve, Enrolled in a Williamson Act Contract, and Zoning Classification

Private Land APNs	Agricultural Preserve	Enrolled Under a Williamson Act Contract	Zoned as A-1-20 Light Agriculture	Zoned as W-2-10 Controlled Development Areas
807-172-010				X
807-172-011				X
808-240-001	Chuckwalla Agricultural Preserve No. 2	X	X	
808-240-002			X	
808-240-003			X	
808-240-004			X	
808-240-005	Chuckwalla Agricultural Preserve No. 2	X	X	
808-240-006	Chuckwalla Agricultural Preserve No. 2	X	X	
808-240-009	Chuckwalla Agricultural Preserve No. 2	X	X	

Table 3.3-3. Private Lands Located in an Agricultural Preserve, Enrolled in a Williamson Act Contract, and Zoning Classification

Private Land APNs	Agricultural Preserve	Enrolled Under a Williamson Act Contract	Zoned as A-1-20 Light Agriculture	Zoned as W-2-10 Controlled Development Areas
808-240-010	Chuckwalla Agricultural Preserve No. 2	X	X	
808-240-011	Chuckwalla Agricultural Preserve No. 2	X	X	
808-240-012	Chuckwalla Agricultural Preserve No. 2	X	X	
808-240-013	Chuckwalla Agricultural Preserve No. 2	X	X	
808-240-014	Chuckwalla Agricultural Preserve No. 2	X	X	
808-240-015	Chuckwalla Agricultural Preserve No. 2	X	X	
808-240-016	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-001	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-002	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-003	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-004	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-005	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-006	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-007	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-008	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-009	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-010	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-011	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-012	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-013	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-014	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-015	Chuckwalla Agricultural Preserve No. 2	X	X	
808-250-016	Chuckwalla Agricultural Preserve No. 2	X	X	
808-260-005				X
808-260-006				X
808-260-007				X
808-260-013				X

Table 3.3-3. Private Lands Located in an Agricultural Preserve, Enrolled in a Williamson Act Contract, and Zoning Classification

Private Land APNs	Agricultural Preserve	Enrolled Under a Williamson Act Contract	Zoned as A-1-20 Light Agriculture	Zoned as W-2-10 Controlled Development Areas
808-260-014				X
808-260-015				X
811-270-008	Chuckwalla Agricultural Preserve No. 3	X	X	
811-270-009	Chuckwalla Agricultural Preserve No. 3	X	X	
811-270-010	Chuckwalla Agricultural Preserve No. 3	X	X	
811-270-011	Chuckwalla Agricultural Preserve No. 3	X	X	
811-270-012	Chuckwalla Agricultural Preserve No. 3	X	X	
811-270-013			X	

Threshold c: Would the project cause development of non-agricultural uses within 300 feet of agriculturally zoned property (Ordinance No. 625 "Right-to-Farm")?

LESS THAN SIGNIFICANT. Refer to Thresholds "a" and "b" above regarding impacts from the construction and operation of the Project. The Project would cause development of non-agricultural uses within 300 feet of agriculturally zoned property but would not create significant impacts due to the location of non-agricultural use in proximity to agricultural use. 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.

The County's Right-to-Farm Ordinance (Ordinance No. 625) is designed to "conserve, protect and encourage the development, improvement and continued viability of agricultural land and industries for the long-term production of food and other agricultural products, and for the economic well-being of the county's residents." It seeks to "balance the rights of farmers to produce food and other agricultural products with the rights of non-farmers who own, occupy or use land within or adjacent to agricultural areas." Thus, the County's Right-to-Farm Ordinance includes regulations to reduce the loss of agricultural resources in the County by limiting the circumstances under which agricultural operations may be deemed a "nuisance." It states that an agricultural activity that has been operating for more than 3 years on a site (and assuming it was not a nuisance at the time it began) cannot be later classified as a public or private nuisance due to "any changed condition in or about the locality." The ordinance prevents, for example, existing dairies from being targeted by odor complaints from residents of housing units constructed in the surrounding area three or more years after the dairy use began. Further, it requires buyers of properties within 300 feet of land zoned primarily for agricultural purposes to be given notice of the pre-existing agricultural use and its right to continue. The Project would not result in the loss of agricultural resources in Riverside County as a result of a determination that existing uses on nearby agricultural land being deemed a nuisance. Agricultural activities in the Project area and their related impacts would have no effect on the construction or operation of the proposed Project.

Moreover, the Project would be allowed as a conditional use on Riverside County lands zoned for agriculture and therefore would comply with Ordinance No. 348.4705. Overall, the Project would not

conflict with Riverside County Ordinance No. 625, "Right-to-Farm," nor any other Riverside County Ordinances are discussed in Section 3.3.1. The impact would be less than significant.

Threshold d: Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

LESS THAN SIGNIFICANT. As previously described in Section 3.3.2, there is a semi-developed/aquaculture facility located just west of the Project site that extends into the western portion of the Project site. The portion of the semi-developed/aquaculture facility outside of the Project site is operational and the portion within the western portion of the Project site is non-operational. The owner of the semi-developed/aquaculture facility is selling their land within the Project site to the Applicant for solar use. Construction and operation of the Project would not impact the semi-developed/aquaculture facility's ability to operate. Additionally, there are active agriculture uses approximately 1 mile northeast of the Project site.

As previously stated under Threshold "c," all private lands adjacent to the Project site are designated as Open Space, Rural in the Riverside County General Plan Land Use Element. There are areas designated as Public Facilities to the east and west of the Project site, including the Desert Center Airport/Chuckwalla Valley Raceway (located approximately 1 mile to the east of the Project site) and the Desert Center Landfill (located approximately 1.25 miles to the west of the Project site), respectively.

In terms of zoning, the private parcels to the north, east, and south of the Project site are zoned as N-A Natural Assets Zone. Areas to the south and southeast of the Project site are zoned as A-1-20 Agricultural Zone and W-2-10 Controlled Development Areas. The areas to the west of the Project site (west of Melon Street) are zoned as W-2-10 Controlled Development Areas.

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 (refer to Section 3.4, Air Quality, for a detailed discussion regarding vehicle emissions). They would not be of significant duration to have a significant impact on the life cycle of plants in the area.

Water for construction-related dust control and operations could impact water availability for agricultural uses; however, water use for the Project would not significantly adversely affect the adjacent farmers' share of the water supply, including the aquaculture facility to the west. The Project is anticipated to use up to 300 acre-feet per year (AFY)[1] during the approximately 12- to 18-month construction period. The annual operational water usage for PV panel rinsing and for sanitary needs at the O&M facility is expected to be approximately 9 AFY (Appendix E, Water Supply Assessment). It is anticipated that water for construction and operation for the life of the Project (approximately 39 years) would be significantly less than water needed for agricultural uses, such as the previous jojoba farms. As the Project's water use for construction and operation is anticipated to be less than the water usage of the prior jojoba operations, the Project could result in an increase in water supply for surrounding agriculture. During construction of the Project, water would primarily be used for grading. During Project operations, water would be used for washing of solar panels, which is expected to occur up to once annually. Water for on-site maintenance purposes would likely be sourced from on-site wells, but if found to not be of sufficient volume, water may be trucked from off site (refer to Section 3.11, Hydrology and Water Quality, for a detailed discussion regarding water resources).

The Project would not involve other changes in the existing environment, which may result in the conversion of other agricultural lands to non-agricultural uses. The Project furthermore would not

[1] 1 acre-foot = 325,851 gallons

interfere with neighboring agricultural operations. Therefore, the Project would result in less-than-significant impacts involving other changes in the existing environment.

Threshold e: Would the project 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))?

NO IMPACT. The Project site and surrounding areas are not zoned for 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)) (RCIT 2023). As such, the Project has no potential to conflict with such zoning, and no impact would occur.

According to Figure 4.5.3 (Forestry Resources Eastern Riverside County) of the Riverside County EIR No. 521, which was prepared in conjunction with the County's 2015 General Plan Update, the Project site does not contain any forestry resources under existing conditions (County of Riverside 2015b). The nearest areas containing forests occur within the San Bernardino National Forest located approximately 65 miles west of the Project site; however, no timber production occurs in association with the San Bernardino National Forest (County of Riverside 2015b, Figure 4.5.2). As such, the Project has no potential to result in the loss of forest land or conversion of forest land to non-forest use, and no impact would occur. Furthermore, the Project would not involve other changes in the existing environment that, due to their location or nature, could result in conversion of forest land to non-forest use. No impact would occur.

Threshold f: Would the project result in the loss of forest land or conversion of forest land to non-forest use?

NO IMPACT. As discussed above, the Project site does not contain any forestry resources under existing conditions (County of Riverside 2015b). Additionally, the Project site and surrounding areas are not zoned for forest land (as defined in Public Resources Code Section 12220(g)). As such, no impact would occur.

Threshold g: Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use?

NO IMPACT. As discussed above, the Project site does not contain any forestry resources under existing conditions (County of Riverside 2015b). The Project site and surrounding areas are not zoned for forest land (as defined in Public Resources Code Section 12220(g)). As such, no impact would occur.

Cumulative Impacts

Geographic Scope. Agricultural cumulative impacts include the Project's impacts as well as those likely to occur as a result of other existing, proposed, and reasonably foreseeable projects (refer to Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario). The geographic scope for cumulative impacts is Riverside County as a whole. Riverside County ranks high on the list of California counties with respect to urbanization and loss of farmland. As stated in the General Plan EIR, for farmers, urban encroachment adversely affects the efficiency of remaining farming operations due to "increased air pollution, livestock predation by pets, crop diseases resulting from inadequate care of off-farm ornamental plants, restrictions on pesticide use and burning, and requirements to set aside on-farm buffer zones." At the same time, production costs increase due to rising land values, water scarcity, theft and vandalism of farm equipment, crop pilferage, road congestion, and personal injury liability resulting from trespassing on farms. By reducing the profitability of remaining farming operations, urban encroachment tends to have a spiraling effect, encouraging further losses of farms to urban development. Although growth in population is likely to decrease the amount of

agricultural land in the County in the future, other factors, including availability of water also contribute to decreases in farmland.

The Riverside County General Plan designates 180,178 acres in unincorporated Riverside County for agricultural uses under the "Agriculture" Foundation Component. The intent of the General Plan Agriculture Foundation Component and 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/suburban uses. As noted in the General Plan EIR, the amount of land utilized for the agriculture production would be reduced as not all land used for agricultural production was classified in the General Plan as being located within the Agriculture Foundation Component. The Project site is not located within the Agriculture Foundation Component and therefore is not designated for long-term agriculture use under the General Plan.

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 and has resulted in a net loss of 6,235 acres of agricultural land between 2016 and 2018 (see Table 3.3-1). 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.

Cumulative Impacts. Besides the beneficial aspects of the Project relative to renewable resource-based energy production, job creation and increased sale and property taxes, implementation of the Project would have favorable impacts on regional agriculture by reducing on-site water consumption thereby making more water available for other uses. Cumulative projects, which are subject to Williamson Act Contracts in nonrenewal status, would not be developed until the existing Williamson Act Contracts expire and similarly would not result in any conflicts related to cancellation of an open space contract or a Farmland Security Zone contract. The Project's incremental effect is not cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects and the effects of probable future projects and thus cumulative impacts would be less than significant.

As discussed under Threshold "a," the Project would not convert any land designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use as defined by State CEQA Guidelines Appendix G Section II(a), the County's Environmental Assessment Checklist, and the FMMP. Therefore, the Project would not contribute to a cumulatively significant impact with respect to land designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

As discussed under Threshold "b," the Project site is zoned as A-1-20 Agricultural Zone and W-2-10 Controlled Development Areas. However, in accordance with County Ordinance No. 348, solar power plants on lots 10 acres or larger are permitted through a CUP within the A-1-20 Light Agricultural and W-2-10 Controlled Development Areas zoning designations (County of Riverside 2021a).

Land use zoning on private parcels surrounding the Project site include N-A Natural Assets Zone A-1-20 Agricultural Zone and W-2-10 Controlled Development Areas. Cumulative developments within the region would have the potential to conflict with existing agricultural development; however, similar to the Project, surrounding projects would also have to adhere to County Ordinance No. 348.

Cumulative developments within the region may also be subject to a Williamson Act contract; however, such projects would also be subject to the County's Williamson Act contract cancellation process and Government Code Sections 51280–51287. Some surrounding projects, such as Athos Solar, Arica and

Victory Pass, and Oberon are not located on Willamson Act Contract Lands. However, the Easley Renewable Energy Project would remove eight parcels (219.88 acres) from Williamson Act Contracts (County of Riverside 2024). As part of the County's Williamson Act contract cancellation process, the parcels under a Williamson Act contract within a project would be removed from the County's Agricultural Preserves. Therefore, the Project's impacts combined with those of nearby projects would not result in a cumulatively significant impact with respect to existing zoning, agriculture use, Williamson Act contract, or land within a County Agricultural Preserve.

As discussed under Threshold "c" above, the Project would cause development of non-agricultural uses within 300 feet of agriculturally zoned property; however, it would not create significant impacts due to the location of non-agricultural use in proximity to agricultural use. Similarly, other cumulative developments within the region have the potential to introduce non-agricultural uses within 300 feet of agriculturally zoned property. However, the Project and other cumulative developments within the County would be subject to the provisions of County Ordinance No. 625 and would not impact nearby agricultural operations. Therefore, the Project's impacts combined with those of nearby projects would not result in a cumulatively significant impact with respect to development of non-agricultural uses within 300 feet of agriculturally zoned property.

As discussed under Threshold "d" above, all private lands adjacent to the Project site are designated as Open Space, Rural in the Riverside County General Plan Land Use Element. There are areas designated as Public Facilities to the east and west of the Project site, including the Desert Center Airport/Chuckwalla Valley Raceway (located approximately 1 mile to the east of the Project site) and the Desert Center Landfill (located approximately 1.25 miles to the west of the Project site), respectively. In terms of zoning, the private parcels to the north, east, and south of the Project site are zoned as N-A Natural Assets Zone. Areas to the south and southeast of the Project site are zoned as A-1-20 Agricultural Zone and W-2-10 Controlled Development Areas. The areas to the west of the Project site (west of Melon Street) are zoned as W-2-10 Controlled Development Areas.

The Project is located on approximately 1,123 acres, of which approximately 1,082 acres is located on private lands and approximately 41 acres is located on land administered by the BLM. The 41-acre area on BLM-administered lands is located within a Development Focus Area (DFA) for solar, wind, and geothermal projects as designated by the Desert Renewable Energy Conservation Plan (DRECP). The Project includes the construction, operation, maintenance and decommissioning of a solar site and two Linear Facility Routes. The two Linear Facility Routes would include one 230-kilovolt (kV) generation tie (gen-tie) line, two access roads (one would be constructed for primary access and one for County-required secondary access for emergency services), and one collector line route, all of which would be located on lands administered by the BLM. The Project is isolated and does not include construction of infrastructure that would encourage further development in the area.

Therefore there are no components of the Project that could indirectly result in the conversion of nearby farmland to non-agricultural uses. As such, the Project's impacts combined with those of nearby projects would not result in a cumulatively significant impact with respect to other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

As discussed under Threshold "e," "f," and "g" above, the Project site does not contain any forestry resources. Likewise, no lands in within the geographical scope of the cumulative impacts analysis contain forestry resources and/or are zoned for 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)). Therefore, the Project would not

contribute to a cumulatively significant impact with respect to impacts due to a conflict with existing zoning for, or rezoning of, forest land and/or the conversion of forest land to non-forest use.

3.3.4 Mitigation Measures

No mitigation would be required.

3.3.5 References

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Figure 3.3-1 Farmland Monitoring and Management Plan

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Figure 3.3-2 Agricultural Preserves

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3.4 Air Quality

This section includes an analysis of the impacts to air quality that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning the proposed project (Project). The analysis in this section describes the applicable regulations, provides information on the existing air quality in and surrounding the Project site, identifies the criteria used for determining the significance of environmental impacts, describes the Project's potential impacts related to air quality, and lists Mitigation Measures (MMs) that would be incorporated into the Project to avoid and/or substantially lessen to the extent feasible potentially significant impacts.

Information contained in this section is based on publicly available data and reports from the California Air Resources Board (CARB), U.S. Environmental Protection Agency (EPA), and South Coast Air Quality Management District (SCAQMD), as well as the following:

Appendix F Air Quality, Greenhouse Gas Emissions, and Energy Technical Report for the Sapphire Solar Project, Riverside County, California, prepared by Dudek

3.4.1 Regulatory Framework

The key federal, state, and local laws and regulations applicable to air quality are identified and summarized in this section.

Federal Laws, Regulations, and Policies

Criteria Air Pollutants

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. EPA is responsible for implementing most aspects of the Clean Air Act, including setting National Ambient Air Quality Standards (NAAQS) for major air pollutants; setting hazardous air pollutant (HAP) standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric O_3 protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for the following criteria pollutants: ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead.

Hazardous Air Pollutants

The 1977 federal Clean Air Act amendments required EPA to identify National Emission Standards for HAPs to protect public health and welfare. HAPs include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal Clean Air Act Amendments, which expanded the control program for HAPs, 187 substances and chemical families were identified as HAPs.

Federal General Conformity

Under Section 176(c)(1) of the federal Clean Air Act, federal agencies that "engage in, support in any way or provide financial assistance for, license or permit, or approve any activity"[1] must demonstrate

[1] Title 40, Code of Federal Regulation, Part 51, Section 51.850.

that such actions do not interfere with state and local plans to bring an area into attainment with the NAAQS. The program by which a federal agency determines that its action would not obstruct or conflict with air quality attainment plans is called "general conformity." The implementing regulations for general conformity are found in Title 40, Code of Federal Regulations, Part 51, Subpart W. In addition, SCAQMD has adopted the federal general conformity regulations as Rule 1901 (General Conformity), which applies to any general federal actions that are funded or approved under Title 23 U.S.C.

Under the general conformity regulations, both the direct and indirect emissions associated with a federal action must be evaluated. Subpart W defines direct emissions as:

> [T]hose emissions of a criteria pollutant or its precursors that are caused or initiated by the Federal action and occur at the same time and place as the action.

Indirect emissions are defined as:

> [T]hose emissions of a criteria pollutant or its precursors that:
>
> (1) Are caused by the Federal action, but may occur later in time and/or may be farther removed in distance from the action itself but are still reasonably foreseeable; and
>
> (2) The Federal agency can practicably control and will maintain control over due to a continuing program responsibility of the Federal agency.

State Laws, Regulations, and Policies

Criteria Air Pollutants

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB established the California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. An ambient air quality standard defines the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without harm to the public's health. For each pollutant, concentrations must be below the relevant CAAQS before a basin can attain the corresponding CAAQS. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility-reducing particles are values that are not to be exceeded.

SCAQMD has based its thresholds of significance for California Environmental Quality Act (CEQA) purposes on the levels that scientific and factual data demonstrate that the air basin can accommodate without affecting the attainment date for the NAAQS or CAAQS. Since an ambient air quality standard is based on maximum pollutant levels in outdoor air that would not harm the public's health, and air district thresholds pertain to attainment of the ambient air quality standard, this means that the thresholds established by air districts are also protective of human health. The NAAQS and CAAQS are presented in Table 3.4-1.

Table 3.4-1. Ambient Air Quality Standards

		California Standards[a]	National Standards[b]	
Pollutant	**Averaging Time**	**Concentration[c]**	**Primary[c,d]**	**Secondary[c,e]**
O3	1 hour	0.09 ppm (180 µg/m3)	—	Same as Primary Standardf
	8 hours	0.070 ppm (137 µg/m3)	0.070 ppm (137 µg/m3)f	
NO2g	1 hour	0.18 ppm (339 µg/m3)	0.100 ppm (188 µg/m3)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	0.053 ppm (100 µg/m3)	
CO	1 hour	20 ppm (23 mg/m3)	35 ppm (40 mg/m3)	None
	8 hours	9.0 ppm (10 mg/m3)	9 ppm (10 mg/m3)	
SO2h	1 hour	0.25 ppm (655 µg/m3)	0.075 ppm (196 µg/m3)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m3)
	24 hours	0.04 ppm (105 µg/m3)	0.14 ppm (for certain areas)g	—
	Annual	—	0.030 ppm (for certain areas)g	—
PM10i	24 hours	50 µg/m3	150 mg/m3	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m3	—	
PM2.5i	24 hours	—	35 mg/m3	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m3	12.0 mg/m3	15.0 µg/m3
Leadj,k	30-day Average	1.5 µg/m3	—	—
	Calendar Quarter	—	1.5 mg/m3 (for certain areas)k	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 mg/m3	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m3)	—	—
Vinyl chloridej	24 hours	0.01 ppm (26 µg/m3)	—	—
Sulfates	24- hours	25 µg/m3	—	—
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016.

Notes: µg/m^3 = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter; ppm = parts per million by volume; O_3 = ozone; NO_2 = nitrogen dioxide; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[e] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[g] To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[h] On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner). The California toxic air contaminant (TAC) list identifies more than 700 pollutants; carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. In 1987, the Legislature enacted the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines (CARB 2000). The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. There are several Airborne Toxic Control Measures that

reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

California Health and Safety Code Section 41700

Section 41700 of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

Local Laws, Regulations, and Policies

South Coast Air Quality Management District

While CARB is responsible for the regulation of mobile emissions sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The Project site is located within the Mojave Desert Air Basin (MDAB), which comprises 21,000 square miles, and encompasses the eastern portion of Riverside County (County) consisting of the Palo Verde Valley along with portions of Los Angeles, Kern, and San Bernardino Counties. SCAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the portion of the MDAB where the Project is located. SCAQMD operates monitoring stations in the MDAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. SCAQMD's Air Quality Management Plans (AQMPs) include control measures and strategies to be implemented to attain the CAAQS and NAAQS in the MDAB. SCAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.

Currently, the most recent approved SCAQMD AQMP is the 2022 AQMP (SCAQMD 2022), which was adopted by the SCAQMD Governing Board in December 2022. The 2022 AQMP provides actions, strategies, and steps needed to reduce air pollutant emissions and meet the ozone standard by 2037. The strategies of the 2022 AQMP include wide adoption of zero-emissions technologies, low nitrogen oxides (NO_x) technologies where zero-emission technologies are not feasible, federal action, zero-emission technologies for residential and industrial sources, incentive funding in environmental justice areas, and prioritizing benefits on the most disadvantaged communities (SCAQMD 2022).

Applicable Rules

Emissions that would result from Project construction may be subject to SCAQMD rules and regulations, which may include the following:

- **Rule 401—Visible Emissions**. This rule establishes the limit for visible emissions from stationary sources for a period or periods aggregating more than 3 minutes in any hour. This rule prohibits visible emissions dark or darker than Ringelmann No. 1 for periods greater than 3 minutes in any hour or such opacity that could obscure an observer's view to a degree equal or greater than does smoke.
- **Rule 402—Nuisance**. This rule prohibits the discharge of air pollutants from a facility that cause injury, detriment, nuisance, or annoyance to the public or damage to business or property.
- **Rule 403—Fugitive Dust**. This rule requires fugitive dust sources to implement best available control measures for all sources and prohibits all forms of visible particulate matter from crossing any property

line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust.

- **Rule 431.2—Sulfur Content of Liquid Fuels**. The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose both of reducing the formation of sulfur oxides (SO_x) and particulates during combustion and of enabling the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the SCAQMD. The rule also affects diesel fuel supplied for mobile source applications.
- **Rule 1113—Architectural Coatings**. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce volatile organic compound (VOC) emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the regional planning agency for Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the federally designated metropolitan planning organization for the Southern California region and is the largest metropolitan planning organization in the United States.

On May 7, 2020, SCAG's Regional Council adopted the Connect SoCal (2020–2045 Regional Transportation Plan [RTP]/Sustainable Communities Strategy [SCS]). Connect SoCal is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Connect SoCal charts a path toward a more mobile, sustainable, and prosperous region by making connections between transportation networks, between planning strategies, and between the people whose collaboration can improve the quality of life for Southern Californians. Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura (SCAG 2020).

Riverside County General Plan

The County's General Plan Air Quality Element includes policies to improve air quality through regional cooperation with other jurisdictions; compliance with federal, state, and regional air quality regulations; programs to reduce vehicles miles traveled; energy conservation; and intentional development patterns. The relevant policies associated with air quality from the General Plan are provided below (County of Riverside 2018):

- **Policy AQ 1.1.** Promote and participate with regional and local agencies, both public and private, to protect and improve air quality.
- **Policy AQ 1.3.** Participate in the development and update of those regional air quality management plans required under federal and state law, and meet all standards established for clean air in these plans.
- **Policy AQ 1.4.** Coordinate with the SCAQMD and MDAQMD [Mojave Desert Air Quality Management District] to ensure that all elements of air quality plans regarding reduction of air pollutant emissions are being enforced.
- **Policy AQ 1.7.** Support legislation which promotes cleaner industry, clean fuel vehicles and more efficient burning engines and fuels.

- **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 3.2.** Seek new cooperative relationships between employers and employees to reduce vehicle miles traveled.
- **Policy AQ 3.4.** Encourage employee rideshares and transit incentives for employers with more than 25 employees at a single location.
- **Policy AQ 4.1.** Require 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, SCAB [South Coast Air Basin], the Environmental Protection Agency, and the California Air Resources Board.
- **Policy AQ 4.8.** Expand, as appropriate, measures contained in the County's Fugitive Dust Reduction Program for the Coachella Valley to the entire County.
- **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 5.2.** Adopt incentives and/or regulations to enact energy conservation requirements for private and public developments.
- **Policy AQ 5.3.** Update, when necessary, the County's Policy Manual for Energy Conservation to reflect revisions to the County Energy Conservation Program.
- **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 15.1.** Identify and monitor sources, enforce existing regulations, and promote stronger controls to reduce particulate matter.
- **Policy AQ 16.1.** Cooperate with local, regional, state and federal jurisdictions 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 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 17.6.** Reduce emissions from building materials and methods that generate excessive pollutants, through incentives and/or regulations.
- **Policy AQ 17.7.** Separate trucks from other vehicles in industrial areas of the County with the creation of truck-only access lanes to promote the free flow of traffic.
- **Policy AQ 17.8.** Adopt regulations and programs necessary to meet state and federal guidelines for diesel emissions.
- **Policy AQ 17.11.** Create and implement street-sweeping plans, as appropriate, in areas of the County disproportionately affected by particulate matter pollution.

Many air quality strategies result in co-benefits with promoting energy efficiency and reducing greenhouse gas (GHG) emissions. See Section 3.7, Energy, and Section 3.9, Greenhouse Gas Emissions, for discussion of the County's GHG emission reduction and energy efficiency policies.

3.4.2 Environmental Setting

The Project site is located within the MDAB. Air quality conditions in the County MDAB are partly under the jurisdiction of SCAQMD and partly under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD). The Project site is outside the portion of the County that is partly within the jurisdiction of MDAQMD and therefore only under the jurisdiction of SCAQMD.

Meteorological and Topographical Conditions

Air pollution, especially the dispersion of air pollutants, is directly related to a region's topographic features. Air quality is a function of both the rate and location of pollutant emissions and the meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, which affects ambient air quality. The most recent information on the MDAB's typical climatic conditions is summarized in MDAQMD guidance, which is provided below.

The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada mountains to the north; air masses pushed onshore in southern California by differential heating are

channeled through the MDAB. The MDAB is separated from the Southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. The Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevadas in the north by the Tehachapi Pass (3,800-foot elevation). The Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 feet). The Mojave Desert is bordered in the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the Cajon Pass (4,200 feet). A lesser channel lies between the San Bernardino Mountains and the Little San Bernardino Mountains (the Morongo Valley).

During the summer, the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south.

The MDAB averages between 3 and 7 inches of precipitation per year (from 16 to 30 days with at least 0.01 inches of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate at least 3 months have maximum average temperatures over 100.4°F (MDAQMD 2020).

Pollutants and Effects

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O_3, NO_2, CO, SO_2, PM_{10}, $PM_{2.5}$, and lead. Reactive organic gases (ROGs; also referred to as VOCs)[2] and NO_x are also important because they are precursors to O_3. These pollutants, as well as TACs, are discussed in the following paragraphs.[3] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, respiratory symptoms, worsening of lung disease leading to premature death, increased susceptibility to infections, inflammation of and damage to the lung tissue, and some immunological changes (CARB 2023a). These health problems are particularly acute in sensitive receptors such as the sick, older adults, and young children.

Inhalation of O_3 causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms. Exposure to O_3 can reduce the volume of air that the lungs breathe in and cause shortness of breath. O_3 in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. The occurrence and severity of health effects from

[2] ROG and VOC are generally considered equivalent for CEQA analyses; as such, ROG and VOC are used interchangeably in this analysis.

[3] The descriptions of each of the criteria air pollutants and associated health effects are based on the EPA's Criteria Air Pollutants and the CARB Glossary of Air Pollution Terms (CARB 2023b).

O_3 exposure vary widely among individuals, even when the dose and the duration of exposure are the same. Research shows adults and children who spend more time outdoors participating in vigorous physical activities are at greater risk from the harmful health effects of O_3 exposure. While there are relatively few studies of O_3's effects on children, the available studies show that children are no more or less likely to suffer harmful effects than adults. However, there are a number of reasons why children may be more susceptible to O_3 and other pollutants. Children and teens spend nearly twice as much time outdoors and engaged in vigorous activities as adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults. Also, children are less likely than adults to notice their own symptoms and avoid harmful exposures. Further research may be able to better distinguish between health effects in children and adults. Children, adolescents, and adults who exercise or work outdoors, where O_3 concentrations are the highest, are at the greatest risk of harm from this pollutant (CARB 2023a).

A number of population groups are potentially at increased risk for O_3 exposure effects. In the ongoing review of O_3, EPA has identified populations for which there is adequate evidence of increased risk from O_3 exposures, including individuals with asthma, younger and older age groups, individuals with reduced intake of certain nutrients such as Vitamins C and E, and outdoor workers. There is suggestive evidence for other potential factors, such as variations in genes related to oxidative metabolism or inflammation, gender, socioeconomic status, and obesity. However, further evidence is needed to fully assess the risks associated with these characteristics (SCAQMD 2017).

The adverse effects reported with short-term O_3 exposure are greater with increased activity because activity increases the breathing rate and the volume of air reaching the lungs, resulting in an increased amount of O_3 reaching the lungs. Children may be a particularly vulnerable population to air pollution effects because they spend more time outdoors, are generally more active, and have a higher specific ventilation relative to their body weight, compared to adults (SCAQMD 2017).

Nitrogen Dioxide. A large body of health science literature indicates that exposure to NO_2 can induce adverse health effects. The strongest health evidence, and the health basis for the ambient air quality standards for NO_2, are results from controlled human exposure studies that show that NO_2 exposure can intensify responses to allergens in allergic asthmatics. In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses. Infants and children are particularly at risk because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies have shown that long-term NO_2 exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children with higher compared to lower levels of exposure. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB 2023c).

Carbon Monoxide. Carbon monoxide is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion and reduced mental alertness, light-headedness, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Unborn babies,

infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (CARB 2023d).

Sulfur Dioxide. SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter (PM), SO_2 can injure lung tissue. SO_2 can worsen asthma resulting in increased symptoms, increased medication usage, and emergency room visits.

Controlled human exposure and epidemiological studies show that children and adults with asthma are more likely to experience adverse responses with SO_2 exposure compared with the non-asthmatic population. Effects at levels near the 1-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Also, exposure at elevated levels of SO_2 (above 1 part per million [ppm]) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality. The elderly and people with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most likely to experience these adverse effects (CARB 2023e).

SO_2 is of concern both because it is a direct respiratory irritant and because it contributes to the formation of sulfate and sulfuric acid in PM (NRC 2005). People with asthma are of particular concern, both because they have increased baseline airflow resistance and because their SO_2-induced increase in resistance is greater than in healthy people, and it increases with the severity of their asthma (NRC 2005). SO_2 is thought to induce airway constriction via neural reflexes involving irritant receptors in the airways (NRC 2005).

Particulate Matter. A number of adverse health effects have been associated with exposure to both $PM_{2.5}$ and PM_{10}. For $PM_{2.5}$, short-term exposures (up to 24-hours duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with pre-existing heart or lung diseases. In addition, of all the common air pollutants, $PM_{2.5}$ is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and worldwide according to the World Health Organization's Global Burden of Disease project. Short-term exposures to PM_{10} have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits (CARB 2023f).

Long-term (months to years) exposure to $PM_{2.5}$ has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. The effects of long-term exposure to PM_{10} are less clear, although several studies suggest a link between long-term PM_{10} exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that PM in outdoor air pollution causes lung cancer (CARB 2023f).

People with influenza, people with chronic respiratory and cardiovascular diseases, and older adults may suffer worsening illness and premature death as a result of breathing in PM. People with bronchitis can expect aggravated symptoms from breathing in PM. Children may experience a decline in lung function due to breathing in PM_{10} and $PM_{2.5}$ (EPA 2009).

PM encompasses a physically and chemically diverse class of ambient air pollutants of both anthropogenic and biological origin. The PM standard is the only NAAQS that does not target a specific chemical or family of chemical species (NRC 2005). The range of human health effects associated with ambient PM levels or demonstrated in laboratory studies has expanded from earlier concerns for total mortality and respiratory morbidity to include cardiac mortality and morbidity, blood vessel constriction, stroke, premature birth,

low birth weight, retarded lung growth, enhancement of allergic responses, reduced resistance to infection, degenerative lesions in the brain, and lung cancer (EPA 2004).

Lead. Lead in the atmosphere occurs as PM. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and, in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Reactive Organic Gases. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as ROGs (also referred to as VOCs). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of ROGs result from the formation of O_3 and its related health effects. High levels of ROGs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for ROGs as a group.

Non-Criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancerous health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, AB 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair), and thus is a subset of $PM_{2.5}$ (CARB 2023g). DPM is typically composed of carbon particles ("soot," also called black carbon, or BC) and numerous organic compounds, including more than 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2023g). CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM; 17 CCR 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines, including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of $PM_{2.5}$, DPM also contributes to the same noncancerous health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2023g). Those most vulnerable to noncancerous health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Valley Fever. Coccidioidomycosis, more commonly known as "Valley Fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. When fungal spores are present, any activity that disturbs the soil, such as digging, grading, or other earth-moving operations, can cause the spores to become airborne and thereby increase the risk of exposure. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline sandy soils.

Riverside County is not considered a highly endemic region for Valley Fever. Per the California Department of Public Health, the range over 7 years (2013–2019) for coccidioidomycosis cases in the County is 1.5–10.4 cases per 100,000 people per year. Statewide incidences in 2019 were 22.5 per 100,000 people (CDPH 2020).

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend

time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). SCAQMD identifies sensitive receptors as residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993). The Project is in an area of relatively low population density and traversed by a network of dirt roads. The closest off-site sensitive receptor to the Project site is a residence located approximately 2,115 feet east of the Project site along the east side of State Route 177. The Lake Tamarisk community is about 1.28 miles south of the site, and the nearest school is the Eagle Mountain School, approximately 7.5 miles northwest of the Project site. This EIR analyzes the Project's regional impacts and the localized air quality impacts that may affect these nearby residential uses.

Regional and Local Air Quality Conditions

Mojave Desert Air Basin Attainment Designation

Pursuant to the 1990 federal Clean Air Act amendments, EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are re-designated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as "attainment" or "nonattainment," but based on CAAQS rather than NAAQS. Table 3.4-2 depicts the current attainment status of the Project site with respect to NAAQS and CAAQS, as well as the attainment classifications for the criteria pollutants.

Table 3.4-2. Mojave Desert Air Basin Attainment Status

	Designation/Classification	
Pollutant	**National Designation**	**California Designation**
Ozone (O_3)	Unclassified/Attainment	Nonattainment (Severe)
Nitrogen dioxide (NO_2)	Unclassifiable/Attainment	Attainment
Carbon monoxide (CO)	Unclassifiable/Attainment	Unclassified
Sulfur dioxide (SO_2)	Unclassifiable/Attainment	Attainment
Respirable particulate matter (PM_{10})	Unclassified	Nonattainment
Fine particulate matter ($PM_{2.5}$)	Unclassified/Attainment	Attainment
Lead (Pb)[1]	Unclassifiable/Attainment	Attainment
Sulfates (SO_4)	No national standard	Attainment
Hydrogen sulfide (H_2S)	No national standard	Unclassified
Vinyl chloride[1]	No national standard	No designation
Visibility-reducing particles	No national standard	Unclassified

Sources: CARB 2022.

Notes: Attainment = meets the standards; Nonattainment = does not meet the standards; Unclassified or unclassifiable = insufficient data to classify; Unclassifiable/attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

[1] CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure for adverse health effects determined.

Local Ambient Air Quality

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. SCAQMD and CARB monitor local ambient air quality at the Project site. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The most recent background ambient air quality data from 2019 to 2021 are presented in Table 3.4-3.

The Blythe-Murphy Street monitoring station, located at 445 W Murphy Street, Blythe, California 92225, is the nearest air quality monitoring station to the Project site, located approximately 45 miles east of the Project site. The data collected at this station are considered representative of the air quality experienced in the Project vicinity given similar climate and meteorological and topographical conditions. Air quality data for O_3 from the Blythe-Murphy Street monitoring station are provided in Table 3.4-3. Because NO_2, CO, PM_{10}, and $PM_{2.5}$ are not monitored at the Blythe-Murphy Street monitoring station, NO_2 and CO measurements were taken from the Palm Springs monitoring station located at 590 E Racquet Club Road, Palm Springs, California 92262 (approximately 68 miles west of the Project site), and PM_{10} and $PM_{2.5}$ measurements were taken from the Indio-Jackson Street monitoring station located at 46990 Jackson Street, Indio, California 92201 (approximately 50 miles west of the Project site). SO_2 is not currently monitored in the County and data are not available. The number of days exceeding the ambient air quality standards are also shown in Table 3.4-3.

Table 3.4-3. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2019	2020	2021	2019	2020	2021
Ozone (O_3)										
Blythe-Murphy Street	ppm	Maximum 1-hour concentration	California	0.09	0.064	0.066	0.071	0	0	0
	ppm	Maximum 8-hour concentration	California	0.070	0.059	0.054	0.065	0	0	0
			National	0.070	0.059	0.053	0.064	0	0	0
Nitrogen Dioxide (NO_2)										
Palm Springs-Racquet Club Ave	ppm	Maximum 1-hour concentration	California	0.18	0.041	0.047	0.036	0	0	0
			National	0.100	0.041	0.047	0.036	0	0	0
	ppm	Annual concentration	California	0.030	0.007	0.007	0.007	0	0	0
			National	0.053	0.007	0.007	0.007	0	0	0
Carbon Monoxide (CO)										
Palm Springs-Racquet Club Ave	ppm	Maximum 1-hour concentration	California	20	1.3	0.8	0.8	0	0	0
			National	35	1.3	0.8	0.8	0	0	0
	ppm	Maximum 8-hour concentration	California	9.0	0.7	0.5	0.4	0	0	0
			National	9	0.7	0.5	0.4	0	0	0
Coarse Particulate Matter (PM_{10})[a]										
Indio-Jackson Street	µg/m^3	Maximum 24-hour concentration	California	50	80.3	53.8	100.6	4	2	5
			National	150	141.9	145.2	100.4	0	0	0

Table 3.4-3. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2019	2020	2021	2019	2020	2021
	µg/m^3	Annual concentration	California	20	28.9	*	30.1	—	—	—
Fine Particulate Matter ($PM_{2.5}$)[a]										
Indio-Jackson Street	µg/m^3	Maximum 24-hour concentration	National	35	15.0	41.3	30.6	0	2	0
	µg/m^3	Annual concentration	California	12	7.4	11.6	8.1	—	—	—
			National	12.0	7.3	10.4	9.8	—	—	—

Sources: CARB 2023h; EPA 2023.

Notes: — = not available; µg/m^3 = micrograms per cubic meter; ppm = parts per million.

Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (https://www.epa.gov/outdoor-air-quality-data) represent the highest concentrations experienced over a given year.

Exceedances of national and California standards are only shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed national or California standards during the years shown. There is no national standard for 1-hour O_3, annual PM_{10}, or 24-hour SO_2, nor is there a California 24-hour standard for $PM_{2.5}$.

SO_2 is not currently monitored in the County and data are not available; therefore, it is not included in the table.

* = There were insufficient data available to determine the value.

[a] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored.

3.4.3 Impact Analysis

Methodology

Construction and Decommissioning Emissions

Construction of the Project would result in emissions of criteria air pollutants primarily associated with the use of off-road construction equipment, on-road haul and vendor (material delivery) truck trips, and worker vehicle trips. Emissions from construction of the Project were estimated using the California Emissions Estimator Model (CalEEMod) Version 2022.1.1.21[4] using a combination of CalEEMod default assumptions and Project-specific information provided by the Applicant where available. The methods and assumptions used to estimate the criteria air pollutant emissions from construction of the Project are described below in detail for each component. For additional details see Appendix F of this Draft EIR.

For purposes of estimating Project emissions, and based on information provided by the Applicant, it is assumed that construction of the Project would last up to 18 months, with commercial operation achieved

[4] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development projects. The model was developed for the California Air Pollution Control Officers Association in collaboration with multiple air districts across the state. Numerous lead agencies in the state, including SCAQMD, use CalEEMod to estimate criteria air pollutant emissions in accordance with CEQA Guidelines Section 15064.4(a)(1).

in December 2025. The analysis contained herein is based on the following schedule assumptions[5] (duration of phases is approximate):

- **Phase 1** Construction Mobilization: 1 month
- **Phase 2** Site Preparation and Grading: 4 months
- **Phase 3** Access Road Improvements: 2 months
- **Phase 4** Generation Tie Line Construction: 4 months
- **Phase 5** Internal Roads Construction: 2 months
- **Phase 6** Electrical Substation and Microwave Tower Construction: 3 months
- **Phase 7** Solar Array Structural, Underground and Panel, and Battery Installation: 12 months
- **Phase 8** PV and Battery Storage Commissioning: 2 months
- **Phase 9** Project Finalization (Commercial Operation): 1 month

Off-Road Equipment

General off-road construction equipment assumptions (i.e., type and number of pieces) were provided by the Applicant and are summarized in Table 3.4-4. Default values for equipment horsepower and load factor provided in CalEEMod were used for all construction equipment. For the analysis, it was generally assumed that heavy-duty construction equipment would be operating at the site for up to approximately 10 hours per day, 4 days per week, during Project construction.[6]

Table 3.4-4. Construction Off-Road Equipment Assumptions

Construction Phase	Equipment Type	Quantity
Phase 1: Construction Mobilization	Forklifts	4
	Generator Sets	4
	Graders	4
	Other General Industrial Equipment	6
	Rollers	2
	Rubber Tired Dozers	2
	Scrapers	2
	Tractors/Loaders/Backhoes	4
	Trenchers	2
Phase 2: Site Preparation and Grading	Graders	4
	Other Construction Equipment	3
	Other General Industrial Equipment	6
	Rollers	4

[5] Some phases of construction are expected to occur concurrently. Probable overlaps were based on information provided by the Applicant and include Phases 1, 2, and 3; Phases 2, 3, and 4; Phase 2, 4, and 5; Phases 6 and 7; and Phases 7 and 8. Only seven phases would require off-road equipment. There would be two additional phases (Phases 8 and 9) that would only require on-site trucks, and no off-road equipment.

[6] The typical construction schedule is expected to be 8 hours per day, Monday through Friday. However, it may be necessary to extend work to 10 hours per day to meet schedule demands or reduce impacts. Given that applicable significance thresholds are based on maximum daily criteria air pollutant emissions, the 4 days per week/10 hours per day schedule scenario was used to model emissions to provide a worst-case, conservative assessment of potential construction impacts.

Table 3.4-4. Construction Off-Road Equipment Assumptions

Construction Phase	Equipment Type	Quantity
	Rubber Tired Dozers	4
	Scrapers	3
	Tractors/Loaders/Backhoes	4
Phase 3: Access Road Construction	Graders	4
	Other Construction Equipment	2
	Other General Industrial Equipment	2
	Rollers	4
	Rubber Tired Dozers	3
	Scrapers	3
Phase 4: Generation Tie Line Construction	Aerial Lifts	3
	Cranes	3
	Crawler Tractors	2
	Forklifts	2
	Generator Sets	2
	Other General Industrial Equipment	2
	Tractors/Loaders/Backhoes	3
Phase 5: Internal Roads Construction	Graders	3
	Other General Industrial Equipment	2
	Rollers	3
	Tractors/Loaders/Backhoes	3
Phase 6: Electrical Substation and Microwave Tower Construction	Aerial Lifts	3
	Cranes	2
	Forklifts	2
	Other General Industrial Equipment	2
	Tractors/Loaders/Backhoes	5
	Trenchers	5
Phase 7: Solar Array Structural, Underground and Panel, and Battery Installation	Forklifts	6
	Generator Sets	11
	Other General Industrial Equipment	9
	Pumps	11
	Rollers	2
	Skid Steer Loaders	9
	Tractors/Loaders/Backhoes	2
	Trenchers	5

Notes: Phases 8 and 9 would not require equipment given that the majority of the solar facility would have been installed by this point. Assumed only on-site trucks during these final phases.
Source: Appendix G.

On-Road Vehicles

On-road vehicles would be required for worker travel, vendor trips, and haul trips to and from the Project site during construction. General assumptions for on-road vehicle travel are consistent with the Transportation Analysis (Appendix G) prepared for the Project and described below. CalEEMod default emission factors representing the vehicle mix and emissions were used to estimate emissions associated with vehicular sources. For vendor and haul trucks it was assumed that there would be 1.2 miles of unpaved road travel per trip. Fugitive dust emissions for paved and un-paved travel were estimated using default emission factors in CalEEMod. In accordance with SCAQMD Rule 403, the Project would employ the following fugitive dust control measures:

- Watering two times daily

■ Limiting unpaved road travel speed to 25 miles per hour

Worker Trips. Average daily on-site workforce is expected to be 150 individuals, with peak daily workforce reaching approximately 250 individuals. For purposes of capturing maximum daily emissions, it was assumed that 250 individuals would be traveling to the site daily. The Project workforce would likely be drawn primarily from the Blythe and/or the Palm Desert areas, which are approximately 48 miles and 60 miles from the Project site, respectively. To provide a conservative analysis, the maximum distance of 60 miles was used to estimate emissions from worker travel to and from the Project site.

Vendor Trips. Vendor trip information was provided by the Applicant and would include trips for construction-related deliveries throughout the construction period. For the purposes of this analysis, the 55-mile distance to the air basin boundary was assumed for vendor trips together with the CalEEMod default vehicle mix to estimate emissions associated with these trips. Collections trucks were also assumed to be parked on the Project site delivering cable and large equipment throughout the area during construction.

Haul Trips. The Project would also require use of heavy-duty trucks for delivery of equipment and material, including but not limited to panels, solar tracking system (trackers), battery energy storage system (BESS), concrete, and water. Trip lengths for haul trips were determined based on likely source locations and are consistent with the Traffic Generation Analysis prepared for the Project. Panels and trackers were assumed to be delivered from the closest port, which would be either the Port of Los Angeles or Port of Long Beach, which are approximately 190 miles from the Project site. Deliveries for BESS are assumed to come from the United States/Mexico border in Nuevo Laredo. For the purposes of this analysis, the 55-mile distance to the air basin boundary was assumed for these trips. Approximately 3,670 cubic yards of concrete would be required during construction and would be delivered to the Project site from Blythe, which is approximately 48 miles to the east. According to the Water Supply Assessment (Appendix E) prepared for the Project, approximately 100–300 acre-feet (AF) of water would be required for soil compaction, dust control, and sanitary needs during construction (Appendix E). Water would be obtained either from on-site wells or from the nearby sources. Emissions estimates conservatively assume that all water (300 AF) would be delivered by trucks from within 4 miles from the Project site.

The total number of trucks for the deliveries described above were based on total material quantities and industry-standard default assumptions for truck capacity, where necessary. A summary of total haul trips and the associated trip lengths is provided in Table 3.4-5.

Table 3.4-5. Construction Haul Trip Assumptions

Material	Total Number of Trucks	Trip Length (miles per one-way)
Panels	1,200	190
Trackers	550	190
BESS	468	55
Concrete	367	48
Water	24,443	4

Source: Appendix G.

Grading and Material Movement

Per preliminary Project plans, up to approximately 1,123 acres of land at the site could be disturbed during construction. Given that actual graded acreage will be much less than the 1,123-acre assumption, emissions associated with Project grading (i.e., dust and combustion from off-road equipment) are likely to be overestimated. Fugitive dust from earth movement (e.g., grading) was quantified in CalEEMod using

default emission factors. All material would be balanced on site, and therefore no trips for material import or export were assumed.

Decommissioning

The Project has an anticipated Project life of 39 years, at which time the Applicant may choose to update site technology and recommission or decommission the site and remove the systems and their components. Given that decommissioning activities would be similar the construction activities (i.e., use of the same types of equipment and same general activities), the quantified emissions from construction are used as a proxy for decommissioning activities. However, it would be anticipated that decommissioning impacts would be reduced compared to those estimated for the construction activities as the efficiencies of the construction equipment and on-road vehicles would be consistent with the future decommissioning year, which would require full compliance with stringent emissions standards for heavy-duty construction equipment resulting in anticipated substantial reductions in emissions from what is presented for construction activities.

Operational Emissions

Operation of the Project would result in criteria air pollutant emissions from daily operation of the operations and maintenance (O&M) building, annual panel washing, and mobile trips for worker travel and water delivery. Emissions from the operational phase of the Project were estimated using CalEEMod Version 2022.1.1.21 using a combination of CalEEMod default assumptions and Project-specific information provided by the Applicant where available. Operational year 2026 was assumed consistent with the first full year following completion of Project construction.

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating and water heating are calculated in the building energy use module of CalEEMod, as described in the following text.

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (CAPCOA 2022). Consumer product ROG emissions are estimated in CalEEMod based on the floor area of nonresidential buildings and on the default factor of pounds of ROG per building square foot per day.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers. The emissions associated from landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per square foot of nonresidential building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days. For the County, the average annual "summer" days are estimated to be 250 days; therefore, it is conservatively assumed that vegetation management equipment would operate 250 days per year in CalEEMod (CAPCOA 2022).

Off-Road Equipment

Panel washing would occur up to once annually using a high-pressure attachment on a small panel washing vehicle. It was assumed that panel washing would take approximately 5 days to complete, using

three pressure washers operating 8 hours per day. Default CalEEMod emission factors, and load factor assumptions, were used to estimate emissions from use of equipment during operation.

Stationary Sources

Per preliminary Project details, operation of the Project would include use of up to three emergency backup generators at the O&M building, substation, and/or BESS. Specifications (i.e., horsepower) for Generac SG250 generator (250-kilowatt capacity) were used to estimate emissions, assuming maximum annual usage not to exceed 200 hours.[7]

Water Use

Per the Water Supply Assessment prepared for the Project (Appendix E), approximately 9 AF of water would be required for the annual panel washing and for operation of the O&M building. Similar to water use during construction, water for Project operation would be obtained from either on-site wells or groundwater from the nearby sources. Emission estimates for Project operational water use conservatively assume that all water (9 AF per year) would be delivered by truck from nearby sources within 4 miles of the Project site.

Worker Trips

Approximately eight full-time workers would be required for daily O&M activities at the Project site. Consistent with construction worker travel, it was assumed that operational workforce would be located in Blythe and/or Palm Desert, and therefore the maximum distance of 60 miles was assumed. The operational workforce is likely to live closer to the Project site, so the 60-mile distance provides a conservative analysis. CalEEMod default vehicle emission factors and vehicle fleet mix for 2026, as based on the CARB EMission FACtor (EMFAC) 2021 model, were used to estimate emissions associated with vehicular sources.

Criteria for Determining Significance

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) provides guidance for evaluating whether a development project may result in significant impacts. Based on CEQA Guidelines Appendix G, the Project would have a significant impact on air quality if the Project would:

a) Conflict with or obstruct implementation of the applicable air quality plan.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

c) Expose sensitive receptors to substantial pollutant concentrations.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

[7] Per SCAQMD, emergency backup generators do not operate more than 200 hours a year and are only operational in the event of an emergency power failure or for routine testing and maintenance.

Based on CEQA Guidelines Appendix G, as adapted by the County, the Project would have a significant impact on air quality if the Project would[8]:

a) Conflict with or obstruct implementation of the applicable air quality plan.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

c) Expose sensitive receptors, which are located within one (1) mile of the project site, to substantial pollutant concentrations.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

CEQA Guidelines Appendix G indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether the Project would have a significant impact on air quality. SCAQMD has established Air Quality Significance Thresholds, as revised in March 2023 (SCAQMD 2023), which set forth quantitative emissions thresholds below which a project would not have a significant impact on ambient air quality. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 3.4-6 are exceeded.

A project would result in a substantial contribution to an existing air quality violation of the NAAQS or CAAQS for O_3 (see Table 3.4-1), which is a nonattainment pollutant, if the Project's construction or operational emissions would exceed the SCAQMD VOC or NO_x thresholds shown in Table 3.4-6. These emissions-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur) because O_3 itself is not emitted directly (see the discussion of O_3 and its sources in Section 3.4.2, Environmental Setting), and the effects of an individual project's emissions of O_3 precursors on levels in ambient air cannot be determined through air quality models or other quantitative methods.

Table 3.4-6. South Coast Air Quality Management District Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	**Construction (pounds per day)**	**Operation (pounds per day)**
VOCs	75	55
NO_x	100	55
CO	550	550
SO_x	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55
Lead[a]	3	3
TACs and Odor Thresholds		
TACs[b]	**Maximum incremental cancer risk ³ 10 in 1 million Chronic and acute hazard index ³ 1.0 project increment)**	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	

8 Riverside County-adopted thresholds of significance are consistent with CEQA Guidelines Appendix G, with the exception of the following language added to threshold item 3: "which are located within one (1) mile of the project site." Given that inclusion of this specific distance does not change the analysis or significance determination, Riverside County-adopted threshold language is used exclusively for the impact analysis.

Table 3.4-6. South Coast Air Quality Management District Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	**Construction (pounds per day)**	**Operation (pounds per day)**
Ambient Air Quality Standards for Criteria Pollutants[c]		
NO_2 1-hour average NO_2 annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.030 ppm (state) and 0.0534 ppm (federal)	
CO 1-hour average CO 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
PM_{10} 24-hour average PM_{10} annual average	10.4 µg/m^3 (construction)[d] 2.5 µg/m^3 (operation) 1.0 µg/m^3	
$PM_{2.5}$ 24-hour average	10.4 µg/m^3 (construction)[d] 2.5 µg/m^3 (operation)	

Source: SCAQMD 2023.

Notes: SCAQMD = South Coast Air Quality Management District; VOCs = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; TAC = toxic air contaminant; NO_2 = nitrogen dioxide; ppm = parts per million; µg/m^3 = micrograms per cubic meter.

GHG emissions thresholds for industrial projects, as added in the March 2015 revision to the SCAQMD Air Quality Significance Thresholds, were not included in Table 3.4-6 as they will be addressed within the GHG emissions analysis and not the air quality study.

[a] The phaseout of leaded gasoline started in 1976. Because gasoline no longer contains lead, the Project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

[b] TACs include carcinogens and noncarcinogens.

[c] Ambient air quality standards for criteria pollutants are based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.

[d] Ambient air quality thresholds are based on SCAQMD Rule 403.

In addition to the emission-based thresholds listed in Table 3.4-6, SCAQMD has developed guidance for evaluating whether or not a project may generate significant adverse localized air quality impacts. Such an evaluation is referred to as a localized significance threshold (LST) analysis. Use of LSTs is voluntary and represents the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA). The Final Localized Significance Threshold Methodology (SCAQMD 2009) includes mass rate look-up tables that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance criteria (i.e., the emissions would not cause an exceedance of the applicable concentration limits for NO_2 and CO, PM_{10} and $PM_{2.5}$) without performing dispersion modeling.

The LST for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of a project that would not cause or contribute to an exceedance of the relevant ambient air quality standards, while the threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust). The LST significance threshold for $PM_{2.5}$ is intended to ensure that construction emissions do not contribute substantially to existing exceedances of the $PM_{2.5}$ ambient air quality standards. The allowable emission rates depend on the following parameters:

- Source-receptor area (SRA) in which the project is located
- Size of the project site
- Distance between the project site and the nearest sensitive receptor (e.g., residences, schools, and hospitals)

The Project site is located in SRA 31 (East Riverside County). The nearest sensitive-receptor land use (existing residences) is located approximately 2,115 feet (645 meters) from the closest area of disturbance, northeast of the Project site. As such, the LST receptor distance was assumed to be 1,640 feet (500 meters), which is the furthest available receptor distance on the mass rate LST look-up table. Given that LSTs increase with receptor distance and size of the Project site, use of the analysis to assess localized air quality impacts is considered conservative for the Project. The LST values from the SCAQMD look-up tables for SRA 31 are shown in Table 3.4-7.

Table 3.4-7. Localized Significance Thresholds for Source Receptor Area 31 (East Riverside County)

Pollutant	Construction (lb/day)
NO_2	875
CO	31,115
PM_{10}	248
$PM_{2.5}$	128

Source: SCAQMD 2009.
Notes: lb = pounds; NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.

Environmental Impacts

This section includes an examination of the Project's impacts to air quality per the County's Environmental Assessment Checklist and Appendix G of the State CEQA Guidelines identified above.

Threshold a: Would the project conflict with or obstruct implementation of the applicable air quality plan?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

As previously discussed, the Project site is located within the MDAB under the jurisdiction of SCAQMD, which is the local agency responsible for administration and enforcement of air quality regulations for the area. SCAQMD has established criteria for determining consistency with the AQMP, currently the 2022 AQMP, in Chapter 12, Sections 12.2 and 12.3 of the SCAQMD CEQA Air Quality Handbook (SCAQMD 1993). The criteria are as follows:

- **Consistency Criterion No. 1:** The project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards of the interim emissions reductions specified in the AQMP.
- **Consistency Criterion No. 2:** The project will not exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

Consistency Criterion No. 1

The evaluation under Threshold "b" evaluates the Project's potential to result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state Ambient Air Quality Standards. As discussed under Threshold "b," prior to mitigation the Project would exceed the SCAQMD construction thresholds for PM_{10} and NO_x, a precursor of O_3, which are nonattainment pollutants under the CAAQS within the MDAB (see subheading "Mojave Desert Air Basin Attainment Designation" in Section 3.4.2 above). With implementation of MM AQ-1 and MM AQ-2 (described below), emissions of PM_{10} and NO_x would be reduced to below the SCAQMD daily thresholds for construction. As such, the Project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute new violations, and the Project would not conflict with Consistency Criterion No. 1 of the SCAQMD CEQA Air Quality Handbook.

Consistency Criterion No. 2

While striving to achieve the CAAQS for O_3 and PM_{10} through a variety of air quality control measures, the 2022 AQMP also accommodates planned growth in the MDAB. Projects are considered consistent with, and would not conflict with or obstruct implementation of, the AQMP if the growth in socioeconomic factors (e.g., population and employment) is consistent with the underlying regional plans used to develop the AQMP (per Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook).

SCAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by SCAG for its RTP/SCS (SCAG 2020), which is based on general plans for cities and counties in the region, for the development of the AQMP emissions inventory. The SCAG 2020 RTP/SCS, and associated Regional Growth Forecast, are generally consistent with the local plans; therefore, the 2022 AQMP is generally consistent with local government plans.

The Project is located entirely within the Desert Center Area Plan Boundary of the Riverside County General Plan. The private lands associated with the Project are designated as Open Space, Rural, and Agriculture per the County General Plan, and zoned as A-1-20 Light Agriculture and W-2-10 Controlled Development Areas. In accordance with County Ordinance No. 348, solar power plants on lots 10 acres or larger are permitted through a Conditional Use Permit (CUP) within the A-1-20 Light Agricultural and W-2-10 Controlled Development Areas zoning designations (County of Riverside 2023). The majority of the Project, approximately 1,082 acres, would be located on private lands under the County's jurisdiction. The Applicant is seeking a minimum 39-year CUP and Public Use Permit (PUP) for the construction, operation, and decommissioning of the proposed solar facility and generation tie (gen-tie) line, as well as a PUP for portions of the gen-tie line that would traverse County roads (i.e., Osborne Avenue and Kaiser Road). As such, with issuance of the necessary CUP and PUP, the Project would be considered consistent with the existing land use and zoning, which were used to develop the assumptions in the 2022 AQMP.

Additionally, the Project would not directly or indirectly promote population growth or increase trips in the region. Construction of the Project would require workforce travel from Blythe and/or Palm Desert area. This workforce travel would be temporary and cease once construction is complete. During operation, the Project would employ up to 8 full-time workers to be on site to provide regular O&M activities. As such, implementation of the Project is not anticipated to result in population growth or a substantial increase in trips in the region. Accordingly, the Project would meet Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook.

Prior to mitigation, the Project would potentially result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations and would potentially conflict with Consistency Criterion No. 1. Implementation of the Project would not exceed the demographic growth forecasts in the SCAG 2020 RTP/SCS; therefore, the Project would be consistent with the SCAQMD 2022 AQMP, which based future emission estimates on the SCAG 2020 RTP/SCS. Thus, the Project would not conflict with Consistency Criterion No. 2. Because the Project would potentially conflict with Consistency Criterion No. 1, impacts related to the Project's potential to conflict with or obstruct implementation of the applicable air quality plan is considered potentially significant and mitigation is required. MM AQ-1 (Construction Equipment Emission Reductions) and MM AQ-2 (Fugitive Dust Control Plan) would be required to reduce Project construction-related emissions. MM AQ-1 would reduce air pollutant emissions associated with exhaust from off-road construction equipment. MM AQ-2 would reduce dust-related PM_{10} and $PM_{2.5}$ emissions generated during construction. With the implementation of mitigation, potential impacts would be reduced to **less than significant** under CEQA.

Threshold b: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Past, present, and future development projects may contribute to adverse air quality impacts in the MDAB on a cumulative basis. By its nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SCAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are used in the determination of whether a project's individual emissions would result in a cumulatively considerable net increase of any criteria pollutant. If a project's emissions would exceed the applied significance thresholds, it would result in a cumulatively considerable net increase in a criteria pollutant. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

Construction and operation of the Project would result in emissions of criteria air pollutants, which may result in a cumulatively considerable net increase in emissions of criteria air pollutants for which the MDAB is designated as nonattainment under the NAAQS or CAAQS. As discussed in Section 3.4.2, the Riverside County portion of the MDAB has been designated as a nonattainment area for O_3 and PM_{10} under California standards (CAAQS). The following discussion quantitatively evaluates potential short-term construction and long-term operational impacts that would result from implementation of the Project.

Construction Emissions

Construction of the Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., vendor trucks and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

As discussed under the subheading "Construction and Decommissioning Emissions" in Section 3.4.3, Impact Analysis, criteria air pollutant emissions associated with temporary construction activity were quantified using CalEEMod. Construction emissions were calculated for the estimated worst-case day over the construction period associated with each phase and reported as the maximum daily emissions estimated during construction. Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the Applicant and are intended to represent a reasonable scenario based on the best information available. Default values provided in CalEEMod were used where detailed Project information was not available.

Implementation of the Project would generate air pollutant emissions from entrained dust, off-road equipment, and vehicle emissions. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. The Project would be required to comply with SCAQMD Rules 403 and 403.1 to control dust emissions generated during any activity capable of generating fugitive dust. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites at least two times per day depending on weather conditions. The Project would also employ an off-road speed limit of 25 miles per

hour[9]. Internal combustion engines used by construction equipment, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$.

Table 3.4-8 presents the estimated maximum daily construction emissions generated during construction of the Project. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix F.

Table 3.4-8. Estimated Construction Criteria Air Pollutant Emissions – Unmitigated

Year	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
			Daily (pounds per day)			
2024	40.12	355.85	426.16	0.69	290.66	50.26
2025	15.25	119.86	195.46	0.28	260.82	32.38
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	No	**Yes**	No	No	**Yes**	No

Notes: ROG = reactive organic gas; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District.
See Appendix F for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod. These emissions reflect compliance with SCAQMD Rule 403 (Fugitive Dust), including watering of the Project site and unpaved roads two times per day.

As shown in Table 3.4-8, annual construction emissions would not exceed the daily SCAQMD significance thresholds for VOC, CO, SO_x, or $PM_{2.5}$. However, the Project would exceed the daily SCAQMD threshold for NO_x and PM_{10} during the construction period. As such, impacts related to construction would be **potentially significant** and mitigation is required.

To address the exceedance of NO_x emissions during construction, MM AQ-1 shall be implemented and requires use of Tier 4 final engines be used for off-road, diesel-powered equipment, as well as limits to daily use. Tier 4 final engines reduce emissions of NO_x through advanced exhaust emission control devices. To address the exceedance of PM_{10} emissions during construction, the Project shall implement dust control measures that could include use of chemical suppressants, as detailed in MM AQ-2.

Table 3.4-9 presents the estimated annual construction emissions generated during construction of the Project including MM AQ-1 and MM AQ-2. Details of the emission calculations are provided in Appendix F.

Table 3.4-9. Estimated Construction Criteria Air Pollutant Emissions – Mitigated

Year	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
			Daily (pounds per day)			
2024	11.06	92.38	382.32	0.59	77.63	17.07
2025	8.81	83.53	184.79	0.25	61.66	10.44
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	No	No	No	No	No	No

Notes: ROG = reactive organic gas; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District.
See Appendix F for complete results.
Emissions include application of MM AQ-1 and MM AQ-2.

[9] Pursuant to MM AQ-2, vehicle speeds shall be restricted to 15 miles per hour on all roads used for any vehicular traffic at the Project site.

As shown in Table 3.4-9, after mitigation, construction emissions for the Project would not exceed the SCAQMD significance thresholds for any criteria air pollutant. Therefore, after implementation of mitigation, the Project would result in a **less-than-significant impact**.

Operational Emissions

Operation of the Project would generate ROG, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, including vehicle trips from passenger vehicles and heavy-duty trucks, and from area sources, including the use of consumer products. Table 3.4-10 presents the annual area, energy, off-road, stationary, and mobile emissions associated with the first full year of operation (2026) of the Project. Details of the emission calculations are provided in Appendix F.

Table 3.4-10. Estimated Operational Criteria Air Pollutant Emissions – Unmitigated

Emission Source	ROG	NO_x	CO	SO_x	PM10	PM2.5
			Daily (pounds per day)			
Mobile	0.08	0.34	0.47	<0.01	0.80	0.09
Area	0.09	<0.01	<0.01	<0.01	<0.01	<0.01
Energy	<0.01	0.03	0.02	<0.01	<0.01	<0.01
Off-Road	0.12	0.97	0.72	<0.01	0.04	0.04
Stationary	1.65	4.61	4.21	0.01	0.24	0.24
Total	**1.93**	**5.95**	**5.42**	**0.01**	**1.08**	**0.37**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	No	No	No	No	No	No

Notes: ROG = reactive organic gas; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District.
See Appendix F for complete results.
Totals may not sum due to rounding.

As shown in Table 3.4-10, the daily and annual operational emissions for the Project would not exceed SCAQMD thresholds for any criteria air pollutant. As such, impacts would be **less than significant** and no operational mitigation is required.

Decommissioning Emissions

The Project is anticipated to operate for up to 39 years, after which the Applicant may choose to update site technology and recommission or decommission the site and remove the systems and their components. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, state, and County regulations.

It is anticipated that equipment and activities similar to Project construction would be required during decommissioning of the site. While similar equipment use and activities are anticipated, impacts related to air quality emissions would be less than those during construction given that equipment and vehicles are expected to be cleaner and more fuel-efficient in the future. However, to provide a conservative analysis, it is assumed that decommissioning impacts are equal to construction impacts. As such and consistent with construction impacts, decommissioning is assumed to have a **less-than-significant impact**.

Cumulative Emissions

Regarding potential cumulative localized impacts, air pollution by nature is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SCAQMD develops and implement plans for future attainment of ambient air quality standards. SCAQMD's

approach for assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and state Clean Air Acts. Per SCAQMD (2003):

> Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

As discussed in response to Threshold "a" above, prior to mitigation, the Project would conflict with the AQMP, which is intended to bring the MDAB into attainment for all criteria pollutants. Prior to mitigation, the mass regional emissions of PM_{10} and NO_x calculated for Project construction would exceed the applicable SCAQMD daily significance thresholds that are designed to assist the region in attaining the applicable state and national ambient air quality standards. With implementation of MM AQ-1 and MM AQ-2 emissions of PM_{10} and NO_x would be reduced to below the applicable SCAQMD daily significance thresholds during Project construction. The Project would have a less-than-significant impact regarding cumulatively considerable net increases of criteria pollutants for which the Project region is in nonattainment (i.e., O_3 precursor, NO_x). As such, construction of the Project would not result in a cumulative impact.

The Project and all cumulative projects within the region, including the Easley Renewable Energy Project, which surrounds the Project on almost all sides and may be constructed at the same time as the Project, would be subject to SCAQMD regulatory requirements including Rule 403 for Fugitive Dust and Rule 402 for Nuisance. Compliance with Rule 403 would reduce short-term particulate pollutant emissions and would control fugitive dust and nuisance at the respective project sites. Compliance with SCAQMD Rule 402 would ensure that discharge from any source of air contaminants or other material that could cause injury, detriment, nuisance, or annoyance would be prohibited. Similarly, with implementation of MM AQ-1 to address equipment exhaust, Project construction emissions would not exceed the SCAQMD's mass daily regional emissions thresholds for NO_x, and as such, the Project would not result in a cumulatively considerable net increase of a criteria pollutant for which the region is nonattainment (i.e., state O_3 standard). Impacts would be considered **less than significant.**

Threshold c: Would the project expose sensitive receptors, which are located within one (1) mile of the project site, to substantial pollutant concentrations?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Localized Significance Thresholds

As discussed under the subheading "Sensitive Receptors" in Section 3.4.2, sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. According to SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993). The nearest sensitive-receptor land use (existing residences) is located approximately 2,115 feet (645 meters) from the closest area of disturbance, northeast of the Project site.[10] As such, the LST receptor distance was assumed to be 1,640 feet (500 meters), which is the farthest available receptor distance on the mass rate LST look-up table.

[10] Located 1.28 miles to the southwest of the Project site, the Lake Tamarisk Community is within the vicinity of the Project site but located farther than the nearest sensitive receptor.

An LST analysis has been prepared to determine potential impacts to nearby sensitive receptors during construction of the Project. As indicated in the discussion of the thresholds of significance (see the subheading "Criteria for Determining Significance" under Section 3.4.3), SCAQMD also recommends the evaluation of localized NO_2, CO, PM_{10}, and $PM_{2.5}$ impacts as a result of construction activities to sensitive receptors in the immediate vicinity of the Project site. The impacts were analyzed using methods consistent with those in SCAQMD's Final Localized Significance Threshold Methodology (2009). According to the Final Localized Significance Threshold Methodology, "off-site mobile emissions from the Project should not be included in the emissions compared to the LSTs" (SCAQMD 2009). Hauling of construction materials associated with Project construction are not expected to cause substantial air quality impacts to sensitive receptors along off-site roadways. Emissions from the trucks would be relatively brief in nature and would cease once the trucks pass through the main streets. However, it was conservatively assumed that emissions from heavy-duty haul and vendor trucks, which could be diesel- or gasoline-fueled, traveling 1,000 feet would occur on site to represent potential on-site travel and nearby local off-site travel.

Construction activities associated with the Project would result in temporary sources of on-site fugitive dust and construction equipment emissions. Off-site emissions from vendor trucks, haul trucks, and worker vehicle trips are not included in the LST analysis. The maximum allowable daily emissions that would satisfy the SCAQMD localized significance criteria for Source Receptor Area 31 are presented in Table 3.4-11 and compared to the maximum daily on-site construction emissions generated during the Project.

Table 3.4-11. Localized Significance Thresholds Analysis for Project Construction

	NO_2	CO	PM_{10}	$PM_{2.5}$
Year	**Pounds per Day**			
2024	321.25	293.68	45.39	21.55
2025	97.71	110.85	19.22	4.77
Maximum	*321.25*	*293.68*	*45.39*	*21.55*
SCAQMD LST	*875*	*31,115*	*248*	*128*
LST Exceeded?	No	No	No	No

Source: SCAQMD 2009.

Notes:

NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District; LST = localized significance threshold.

See Appendix F for detailed results.

Localized significance thresholds are shown for 5-acre Project sites corresponding to a distance to a sensitive receptor of 500 meters.

These estimates reflect control of fugitive dust required by SCAQMD Rules 403 and 403.1, including watering of the Project site and unpaved roads two times per day, and restricting vehicle speed on unpaved roads to 25 miles per hour.

Health Impacts of Toxic Air Contaminants

In addition to impacts from criteria pollutants, Project impacts may include emissions of pollutants identified by the state and federal government as TACs or HAPs. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program and aimed at TACs that are a problem in California. The state has formally identified more than 200 substances as TACs, including the federal HAPs, and is adopting appropriate control measures for sources of these TACs. The following measures are required by state law to reduce diesel particulate emissions:

- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-Use Off-Road Diesel Vehicles (Title 13 California Code of Regulations, Chapter 9, Section 2449), the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing), off-road, diesel-fueled vehicles.

- All commercial diesel vehicles are subject to Title 13, Section 2485 of the California Code of Regulations, which puts a limit on engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to 5 minutes; electric auxiliary power units should be used whenever possible.

The greatest potential for TAC emissions during construction would be DPM emissions from heavy equipment operations and heavy-duty trucks during construction of the Project and the associated health impacts to sensitive receptors. The closest sensitive receptors would be residents approximately 2,115 feet from the closest area of disturbance. As shown in Table 3.4-10, maximum daily particulate matter (PM_{10} or $PM_{2.5}$) emissions generated by construction equipment operation and from hauling of soil during grading (exhaust particulate matter, or DPM), combined with fugitive dust generated by equipment operation, would be well below the SCAQMD significance thresholds after mitigation. During operation, the Project would include minimal sources of TAC emissions, including use of pressure washers once annually for panel washing and use of water trucks for periodic water deliveries to the site. Given the minor increase in emissions and distance to the closest receptor (i.e., more than 2,000 feet), operational activities are not expected to be a significant source of DPM or associated potential health impacts. Therefore, the impact would be **less than significant.**

Health Impacts of Carbon Monoxide

As described previously, exposure to high concentrations of CO can result in dizziness, fatigue, chest pain, headaches, and impairment of central nervous system functions. Mobile-source impacts, including those related to CO, occur essentially on two scales of motion. Regionally, Project-related vehicle travel would add to regional trip generation and increase the vehicles miles traveled within the local airshed and the MDAB. Locally, construction and operational traffic would be added to the roadway system in the vicinity of the Project site. Although the MDAB is currently an attainment area for CO, there is a potential for the formation of microscale CO "hotspots" to occur immediately around points of congested traffic. Hotspots can form if such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles cold-started and operating at pollution-inefficient speeds, and/or is operating on roadways crowded with non-Project traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the MDAB is steadily decreasing.

During construction, the Project would generate trips associated with construction worker vehicles and vendor and haul trucks. Title 40 of the California Code of Regulations, Section 93.123(c)(5), Procedures for Determining Localized CO, PM_{10}, and PM_2 Concentrations (hot-spot analysis), states that:

> CO, PM_{10}, and $PM_{2.5}$ hot-spot analyses are not required to consider construction-related activities, which cause temporary increases in emissions. Each site which is affected by construction-related activities shall be considered separately, using established 'Guideline' methods. Temporary increases are defined as those which occur only during the construction phase and last five years or less at any individual site.

While Project construction would involve on-road vehicle trips from trucks and workers during construction, construction activities would last up to approximately 18 months and therefore would not require a Project-level construction hotspot analysis.

As discussed above, high CO concentrations would be associated with severely congested intersections operating at an unacceptable level of service (LOS) (LOS E or worse is unacceptable). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse

traffic impact (i.e., LOS E or worse) at a signalized intersection that would potentially subject sensitive receptors to CO hotspots. According to the Project's Transportation Analysis, operation of the Project would require a nominal amount of permanent vehicular traffic and would not result in intersections operating at or below LOS E (Appendix G). Therefore, the Project would not result in CO hotspot-related impacts. As such, potential Project-generated impacts associated with CO hotspots would be **less than significant**.

Valley Fever

As discussed under the subheading "Non-Criteria Air Pollutants" in Section 3.4.2, Valley Fever is not highly endemic to Riverside County as the latest report from the California Department of Public Health listed the County as having 1.5–10.4 cases per 100,000 people (CDPH 2020). The Project would comply with SCAQMD Rules 403 and 403.1 by watering at least two times per day and limiting speed on unpaved roads to maximum of 25 miles per hour, which would limit the amount of fugitive dust generated during construction and also minimize the release of the *Coccidioides immitis fungus* from construction activities. However, construction workers have increased risk of exposure since this job results in the disturbance of soils where fungal spores are found. Valley Fever infection rates are highest in California from June to November, and the illness has been reported within the County. Therefore, a risk of Valley Fever infection exists for construction personnel working on the Project in the peak summer and fall months. Therefore, the Project would have a **potentially significant impact** with respect to Valley Fever exposure for sensitive receptors and mitigation is required. MM AQ-3 would be required to reduce impacts to less than significant. MM AQ-3 includes a worker training program for Valley Fever that describes potential health hazards associated with Valley Fever, common symptoms, proper safety procedures to minimize health hazards, and notification procedures if suspected work-related symptoms are identified during construction. With implementation of MM AQ-3, the risk of workers and nearby sensitive receptors being exposed to Valley Fever spores would be reduced. Impacts would be **less than significant with mitigation incorporated**.

Threshold d: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

LESS THAN SIGNIFICANT. The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Odors potentially would be generated from vehicles and equipment exhaust emissions during construction of the Project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and or the application of architectural coatings. These potential odors are typical of most construction sites. Such odors would be temporary, would disperse rapidly from the Project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be less than significant.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD 1993). The Project would not create any new sources of odor from these types of operations. Standard operation of the solar and BESS facility would not produce objectionable odors, and there would be no permanent impacts. Therefore, Project operations would result in an odor impact that is **less than significant**.

Cumulative Impacts

Geographic Scope. The geographic scope of the air quality impacts is primarily focused on the area where the Project is located, known as the MDAB. The MDAB has been designated as a nonattainment area for certain criteria pollutants, specifically O_3 and PM_{10}. This nonattainment status is a result of cumulative emissions from various sources of air pollutants within the region, including motor vehicles, off-road equipment, and commercial and industrial facilities.

Cumulative Impacts. The construction, operation, and decommissioning emissions related to the Project would be likely to occur concurrently with those of other cumulative projects in the MDAB. Regarding potential cumulative localized impacts, air pollution by nature is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SCAQMD develops and implements plans for future attainment of ambient air quality standards. The SCAQMD's approach for assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and state Clean Air Acts. Per SCAQMD, "Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant" (SCAQMD 2003).

As discussed under Threshold "a" above, prior to mitigation, the Project would potentially result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations and would potentially conflict with SCAQMD's Consistency Criterion No. 1. The Project's potential, combined with cumulative projects in the geographic area, to conflict with Consistency Criterion No. 1 would be reduced to less than significant through implementation of MM AQ-1 and MM AQ-2. The Project would have a less-than-significant impact regarding cumulatively considerable net increases of criteria pollutants for which the Project region is in nonattainment (i.e., O_3 precursor, NO_x). As such, construction of the Project would not result in a cumulative impact.

Air pollution by nature is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SCAQMD develops and implement plans for future attainment of ambient air quality standards. The potential for the Project to result in a cumulatively considerable impact, specifically, a cumulatively considerable new increase of any criteria pollutant for which the Project region is nonattainment under an applicable NAAQS and/or CAAQS, is addressed in response to Threshold "b." With implementation of MM AQ-1 and MM AQ-2 emissions of PM_{10} and NO_x would be reduced to below the applicable SCAQMD daily significance thresholds during Project construction. The Project would have a less-than-significant impact regarding cumulatively considerable net increases of criteria pollutants for which the Project region is in nonattainment (i.e., O_3 precursor, NO_x). As such, construction of the Project would not result in a cumulative impact.

As discussed under Threshold "c," the Project carries the potential to emit hazardous air pollutants or toxic air contaminants, similar to those of projects within 1 mile of the Project site. Consequently, it would fall under the purview of CARB Regulation for In-Use Off-Road Diesel Vehicles and regulations governing engine idling time for diesel vehicles. In line with other regional projects and projects within 1 mile of the Project, the Project would comply with SCAQMD Rule 403, Fugitive Dust, which would include measures to reduce emissions of PM_{10} (dust), such as watering at least twice daily and enforcing a speed limit of 25 miles per hour on unpaved roads. With mitigation, the Project would not exceed the ambient air quality standards for PM_{10} during construction. Similarly, emissions of TACs during construction would not exceed applicable thresholds during construction for off-site or on-site receptors. The Project would also not

cause or create a CO hotspot. The Project would not emit substantial quantities of criteria pollutant emissions or TACs during operation.

During peak summer and fall months, construction personnel working on the Project could face an elevated risk of exposure to Valley Fever spores. To address this concern, MM AQ-3, Valley Fever Training, is required to reduce the risk of exposure to Valley Fever spores for both workers and nearby sensitive receptors to less than significant. As the Project would result in less-than-significant impacts after implementation of mitigation, the Project would not result in a cumulatively considerable impact regarding exposure of sensitive receptors within 1 mile to substantial pollutant concentrations.

As discussed under Threshold "d," the Project may have the potential to generate odors from vehicles and equipment exhaust emissions during construction and or the application of architectural coatings. However, the incremental contribution of such odors would be temporary, would disperse rapidly from the Project site and be consistent with those generated by similar projects in the same air basin. Odor impacts are generally limited to the immediate area surrounding the source. Potential odors from the Project site would be temporary and limited (due to the Project land use type, which is not typically a substantial source of odors), and other projects in the MDAB would be subject to SCAQMD or MDAQMD Rule 402. These odors are not expected to significantly impact substantial numbers of people. The Project would not introduce any new sources of odor during its operations. As a result, the Project would not result in a cumulatively considerable impact regarding the potential to result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

3.4.4 Mitigation Measures

The following Mitigation Measures were developed to substantially lessen the potentially significant effects to air quality expected to result from the construction, operation, maintenance, and decommissioning of the Project.

MM AQ-1 **Construction Equipment Emission Reductions.** Prior to Riverside County's approval of any construction-related permits, the Applicant or its designee shall require its construction contractor to demonstrate that the following measures are implemented during construction:

- All off-road, diesel-powered equipment shall be powered with California Air Resources Board-certified Tier 4 final engines. An exemption from this requirement may be granted if (1) the Applicant documents that equipment with Tier 4 final engines is not reasonably available, and (2) the required corresponding reductions in criteria air pollutant emissions can be achieved for the Project from other combinations of construction equipment. Before an exemption may be granted, the Applicant's construction contractor shall: (1) demonstrate that at least two construction fleet owners/operators in the County were contacted and those owners/operators confirmed Tier 4 final equipment could not be located within the County during the desired construction schedule; and (2) the proposed replacement equipment has been evaluated using the California Emissions Estimator Model or other industry standard emissions estimation method and documentation provided to the County to confirm that necessary Project-generated emissions reduction are achieved.
- With the exclusion of pile drivers, ensure that no one piece of off-road, diesel-powered construction equipment is operating for more than 8 hours per day during construction.

- Require that all construction equipment shall be properly tuned and maintained in accordance with manufacturer specifications before and for the duration of construction.
- Reduce idling time of heavy-duty trucks either by shutting them off when not in use or by reducing the time of idling to no more than 3 minutes (thereby improving upon the 5-minute idling limit required by the state airborne toxics control measure 13 CCR Section 2485).

MM AQ-2 **Fugitive Dust Control Plan.** Prior to Riverside County's approval of any construction-related permits, the Applicant or its designee shall prepare a comprehensive Fugitive Dust Control Plan consistent with South Coast Air Quality Management District (SCAQMD) Rule 403. The plan shall include the following:

- The name(s), addresses(es), and phone number(s) of person(s) responsible for the preparation, submission, and implementation of the plan
- A description and location of all construction-related activities
- A comprehensive list of all fugitive dust emission sources related to Project construction
- Identification of a Dust Control Supervisor for the Project that meets the following requirements:
  - Is employed by or contracted with the Applicant
  - Is on site or is available to be on site after initial contact
  - Has the authority to expeditiously employ sufficient dust mitigation measure to ensure compliance with all Rule 403 and 403.1 requirements
  - Has completed the SCAQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class
- At a minimum, the plan shall include the following dust control measures:
  - (a) Unpaved Roads. All unpaved access roadways used for Project-related travel to the site shall be stabilized with a nontoxic, Bureau of Land Management-approved chemical stabilizer in sufficient quantity and frequency to maintain a stabilized surface for the duration of the construction period. It is assumed that Envirotac II/Rhino Snot, Earth Glue, and FSB 1000 palliatives will be approved for use during Project construction.
  - (b) Clearing and Grubbing. Prior to, during, and after site preparation where vegetation is cleared, soil stability shall be maintained through watering of the site. Live perennial vegetation shall be maintained where possible, and water shall be applied in sufficient quantities to prevent generation of dust plumes.
  - (c) Vehicle Speeds. Vehicle speeds shall be restricted to 15 miles per hour on all roads used for any vehicular traffic at the Project site. Speeds shall be restricted through worker notifications, signage, or any other necessary means.
  - (d) Disturbed Areas. All soil that is actively excavated or graded shall be watered or stabilized with a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes.

- (e) Haul Trucks. All haul trucks shall use tarps or other suitable enclosures when transporting bulk materials to/from/throughout the Project site. Material shall be stabilized while loading, and maintain at least 6 inches of freeboard on haul vehicles. Haul trucks shall be washed prior to leaving the site to remove soil deposits and minimize track-out.
- (f) Storage Piles. All open storage piles (i.e., any accumulation of bulk material) shall be watered on at least 80% of the surface area on a daily basis when there is evidence of wind-driven fugitive dust, or shall be covered with temporary coverings.
- (g) Monthly Environmental Monitoring Reports. The Dust Control Supervisor for the Project shall prepare monthly compliance reports to be submitted for approval by the County that demonstrate compliance with the Fugitive Dust Control Plan and associated measures.

MM AQ-3 **Valley Fever Training.** Prior to any Project grading activity, the primary Project construction contractor will prepare and implement a worker training program that describes potential health hazards associated with Valley Fever, common symptoms, proper safety procedures to minimize health hazards, and notification procedures if suspected work-related symptoms are identified during construction. The worker training program will identify safety measures to be implemented by construction contractors during construction. At a minimum, safety measures will include the following:

- Provide high efficiency particulate air (HEPA)-filtered air-conditioned enclosed cabs on heavy equipment. Train workers on proper use of cabs, such as turning on air conditioning prior to using the equipment.
- Provide communication methods, such as two-way radios, for use by workers in enclosed cabs.
- Provide personal protective equipment (PPE), such as half-mask and/or full-mask respirators equipped with particulate filtration, to workers active in dusty work areas.
- Provide separate, clean eating areas with hand-washing facilities for construction workers.
- Clean equipment, vehicles, and other items before they are moved off site to other work locations.
- Provide training for construction workers so they can recognize the symptoms of Valley Fever and promptly report suspected symptoms of work-related Valley Fever to a supervisor.
- Direct workers that exhibit Valley Fever symptoms to immediately seek a medical evaluation.
- Prior to initiating any grading, the construction contractor will provide the County with copies of all educational training material.

3.4.5 References

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3.5 Biological Resources

This section includes an analysis of the impacts to biological resources that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning the proposed project (Project). The analysis in this section describes the applicable regulations, provides information on existing biological resources in and surrounding the Project site, identifies the criteria used for determining the significance of environmental impacts, describes the Project's potential impacts related to biological resources, and lists Mitigation Measures (MMs) that would be incorporated into the Project to avoid and/or substantially lessen to the extent feasible potentially significant impacts.

3.5.1 Regulatory Framework

The key federal, state, and local laws and regulations applicable to biological resources are identified and summarized in this section.

Federal Laws, Regulations, and Policies

Federal Land Policy and Management Act (43 USC 170–1787). The Federal Land Policy and Management Act (FLPMA) directs management of public lands managed by the U.S. Forest Service, National Park Service, and the Bureau of Land Management (BLM). It also addresses land use planning, rights-of-way, wilderness, and multiple-use policies.

Endangered Species Act (16 USC 1531 et seq.). The Endangered Species Act (ESA) establishes legal requirements for the conservation of endangered and threatened species and the ecosystems upon which they depend. The ESA is administered by the U.S. Fish and Wildlife Service (USFWS) for terrestrial species. Under the ESA, USFWS may designate critical habitat for listed species. The ESA defines an endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Section 7 of the ESA requires federal agencies to consult with USFWS prior to submittal of permit applications to ensure that their actions are not likely to jeopardize listed threatened or endangered species, or cause destruction or adverse modification of critical habitat. Under the federal ESA, "the term 'take' means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" and "harm" is further defined to include significant habitat modification or degradation that actually kills or injures listed wildlife by significantly impairing essential behavioral patterns.

The ESA allows for the issuance of Incidental Take Permits for listed species under Section 7, which is generally available for a project that also requires other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement. Upon development of a habitat conservation plan, USFWS can issue Incidental Take Permits for listed species.

Migratory Bird Treaty Act (16 USC 703–712). The Migratory Bird Treaty Act of 1918 (MBTA) implements four international conservation treaties that the United States entered into with Canada in 1916[1], Mexico

[1] https://www.fws.gov/media/convention-between-united-states-and-great-britain-protection-migratory-birds

in 1936[2], Japan in 1972[3], and Russia in 1976[4] for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others. Each of the treaties protects selected species of birds and provides for closed and open seasons for hunting game birds. The MBTA protects more than 800 species of birds and prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (16 USC 703 et seq.). In December 2017, the Department of the Interior Principal Deputy Solicitor Jorjani issued a memorandum (M-37050) that interpreted the MBTA to prohibit only intentional take (DOI 2017). However, on October 4, 2021, USFWS published a rule revoking the Trump-era MBTA interpretation, with the result that USFWS has returned to interpreting the MBTA as prohibiting incidental take and applying enforcement discretion to the incidental take of migratory birds. USFWS has indicated that it intends to establish a regulatory framework for authorizing incidental take of migratory birds, but has not yet done so.

Bald and Golden Eagle Protection Act (16 USC Section 668–668d). Two species of eagles that are native to the United States, the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*), were granted protection within the United States under the Bald and Golden Eagle Protection Act to prevent the species from becoming extinct. The Bald and Golden Eagle Protection Act prohibits the take, possession, and commerce of bald eagles and golden eagles. Under the act and subsequent rules published by USFWS, take may include actions that injure an eagle or affect reproductive success (productivity) by substantially interfering with normal behavior or causing nest abandonment. USFWS can authorize incidental take of bald and golden eagles for otherwise lawful activities.

Clean Water Act (33 USC Section 1251 et seq.). Formerly the Federal Water Pollution Control Act of 1972, the Clean Water Act (CWA) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States (WOTUS). The CWA, enforced by the U.S. Environmental Protection Agency, requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. The CWA is the major federal legislation governing water quality, providing guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 404 (33 CFR Section 328.2[f]) of the CWA authorizes the U.S. Army Corps of Engineers (USACE) to regulate the discharge of dredged or fill material into WOTUS, including wetlands. Discharges to WOTUS must be avoided where possible and minimized and mitigated where avoidance is not possible. Permits are issued by USACE. The CWA does not clearly define WOTUS, leaving the definition open to statutory interpretation and agency rulemaking. The definition of what constitutes WOTUS (provided in 33 CFR Section 328.3[a]) has changed multiple times over the past few decades starting with the *United States v. Riverside Bayview Homes, Inc.* court ruling in 1985.

Subsequent court proceedings, rulemakings, and congressional acts in 2001 (*Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*), 2006 (*Rapanos v. United States*), 2015 (Clean Water Rule), 2018 (suspension of the Clean Water Rule), 2019 (formal repeal of the Clean Water Rule), 2020 (Navigable Waters Protection Rule), and 2021 (*Pasqua Tribe et al v. United States*

[2] https://www.fws.gov/media/convention-protection-migratory-birds-and-game-mammals-mexico

[3] https://www.fws.gov/media/convention-between-government-united-states-america-and-government-japan-protection-migratory

[4] https://www.fws.gov/media/convention-between-united-states-america-and-union-soviet-socialist-republics-concerning

Environmental Protection Agency resulting in remand and vacatur of the Navigable Waters Protection Rule and a return to "the pre-2015 regulatory regime") have attempted to provide greater clarity to the term and its regulatory implementation. A Revised Definition of "Waters of the United States" rule (Rule) (88 CFR 3004–3144) became effective on March 20, 2023, restoring federal jurisdiction over waters that were protected prior to 2015 under the CWA for traditional navigable waters, the territorial seas, interstate waters, and upstream water resources that significantly affect those waters. The Rule represented a re-expansion of federal jurisdiction over certain water bodies and wetlands previously exempt pursuant to the 2020 Navigable Waters Protection Rule. The Rule also considered various subsequent court decisions including two notable Supreme Court decisions. However, the applicability of the Rule was substantially affected by a subsequent May 2023 Supreme Court ruling as discussed further below.

The Rule reinstated the "Significant Nexus" test, which refers to waters that either alone, or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of traditional navigable waters, interstate waters, or the territorial seas (86 FR 69372-69450). The "Significant Nexus" test attempts to establish a scientific connection between smaller water bodies, such as ephemeral or intermittent tributaries, and larger, more traditional navigable waters such as rivers. Significant nexus evaluations take into consideration hydrologic and ecologic factors including, but not limited to, volume, duration, and the frequency of surface water flow in the resource and its proximity to a traditional navigable water, and the functions performed by the resource on adjacent wetlands. The Rule also adopts the "Relatively Permanent Standard" test. To meet the "Relatively Permanent Standard," water bodies must be relatively permanent, standing, or continuously flowing and have a continuous surface connection to such waters.

In *Sackett v. EPA*, the United States Supreme Court narrowed the scope of "waters of the United States" and therefore the CWA. Eliminating the significant nexus test, the *Sackett* court found that "the CWA's use of 'waters' encompasses only those relatively permanent, standing or continuously flowing bodies of water forming geographical features that are described in ordinary parlance as streams, oceans, rivers, and lakes." To qualify as waters of the United States, a water must not only be relatively permanent, but also connected to traditional navigable waters. Finally, "the CWA extends only to those wetlands that are as a practical matter indistinguishable from waters of the United States," meaning that "the wetland has a continuous surface connection with that water, making it difficult to determine where the water ends and the wetland begins." Subsequently, on August 29, 2023, the USACE and EPA issued a final rule to amend the final "Revised Definition of 'Waters of the United States'" rule.

Section 402 of the CWA establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into WOTUS.

Section 401 (33 USC 1341) of the CWA requires an applicant for a federal license or permit that may result in a discharge of pollutants into WOTUS to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA, such as applicable effluent limitations and water quality standards. This certification ensures that the proposed activity follows state and/or federal water quality standards. The State Water Resources Control Board and Regional Water Quality Control Boards (RWQCBs) administer the 401 certification program in California.

Executive Order 11990, Protection of Wetlands. Executive Order 11990 states that "each agency shall provide leadership and shall take action to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands." The term "wetlands" means those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include

swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds. To meet these objectives, Executive Order 11990 requires federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided (USDA 1977). Executive Order 11990 applies to:

- Acquisition, management, and disposition of federal lands and facilities construction and improvement projects that are undertaken, financed, or assisted by federal agencies
- Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities (USDA 1977)

The procedures require the determination of whether or not the Project will be in or will affect wetlands. If so, a wetlands assessment must be prepared that describes the alternatives considered. The procedures include a requirement for public review of assessments (USDA 1977).

Noxious Weed Act (7 USC Sections 2801 et seq.). The Noxious Weed Act "seeks to control the spread of noxious weeds which interfere with the growth of useful plants, clog waterways, cause disease, or have other adverse effects upon man or his environment and which are therefore detrimental to agriculture and commerce." "Noxious weed" is defined as any living stage (including but not limited to, seeds and reproductive parts) of any parasitic or other plant of a kind, or subdivision of a kind, which is of foreign origin, is new to or not widely prevalent in the United States, and can directly or indirectly injure crops, other useful plants, livestock, or poultry or other interests of agriculture, including irrigation, navigation, fish, and wildlife resources of public health.

Executive Order 13112, Invasive Species. Executive Order 13112 establishes the National Invasive Species Council and directs federal agencies to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts caused by invasive species. "Invasive species" means, with regard to a particular ecosystem, a non-native organism whose introduction causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health.

Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds. Executive Order 13186 directs federal agencies to review the effects of actions and agency plans on migratory birds according to the National Environmental Policy Act (NEPA) or other established environmental review processes, with emphasis on species of concern (Section 6 of Executive Order 13186); to identify unintentional take reasonably attributable to agency actions, focusing first on species of concern, priority habitats, and key risk factors; and to develop and use principles, standards, and practices to lessen the amount of unintentional take (Section 9 of Executive Order 13186).

California Desert Conservation Area Plan, As Amended. In 1976, Congress designated a 25-million-acre expanse of resource-rich desert lands in southern California as the California Desert Conservation Area (CDCA) through the Federal Land Policy and Management Act. In 2009, Congress passed the Omnibus Public Land Management Act, which directed BLM to include lands managed for conservation purposes within the CDCA as part of the National Conservation Lands. The CDCA Plan guides the management of BLM-administered lands in the California Desert District, including the Mojave, Sonoran, and a small portion of the Great Basin Deserts. The CDCA Plan directs management policy for multiple resources, including wildlife and vegetation. On BLM lands within the CDCA, many special management areas and other designations have been established. These include Wilderness Areas, Wilderness Study Areas, Wild and Scenic Rivers, Areas of Critical Environmental Concern, Desert Wildlife Management Areas, critical habitats, Long-Term Visitor Areas, and designated routes and areas for off-highway vehicle use, among others. Many of these areas prohibit or limit development. The Project is within the CDCA Plan area,

however, the Project site itself is not within land with special designation. Lands with special designations that are within the vicinity of the Project (approximately 5 miles) and are discussed further below.

Northern and Eastern Colorado Desert Coordinated Management Plan. The Northern and Eastern Colorado Desert Coordinated Management Plan provides more specific management direction for BLM lands in the Colorado Desert, including the BLM lands located within the Project's area. The Northern and Eastern Colorado Desert Coordinated Management Plan establishes several Desert Wildlife Management Areas, which were identified as locations where Mojave desert tortoise (*Gopherus agassizii*) populations could be managed to achieve recovery (USFWS 1994) and cover much of the USFWS-designated critical habitat for the Mojave desert tortoise.

Desert Renewable Energy Conservation Plan Land Use Plan Amendment to the CDCA. The purpose of the Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment (LUPA) is to conserve and manage plant and wildlife communities on federally managed lands in the desert regions of California while facilitating federal permitting of compatible renewable energy projects. The DRECP covers more than 10 million acres of BLM land. The BLM Record of Decision for the DRECP was issued in September 2016. Projects that comply with the Conservation and Management Actions (CMAs) specified in the DRECP can be approved by BLM in a Development Focus Area without the need for a LUPA. BLM describes the DRECP as a landscape-level plan that streamlines renewable energy development while conserving unique and valuable desert ecosystems and providing outdoor recreation opportunities. Although only BLM ultimately adopted the DRECP (no state or local agency, including the County adopted the DRECP), such that it applies to federal lands only, the DRECP plan as proposed for adoption included non-federal lands, as well. Thus, the DRECP is a relevant regional plan for review of the Project under the California Environmental Quality Act (CEQA); specifically, the DRECP's landscape-level focus on the conservation of unique desert ecosystems in the plan area makes it a useful tool for identifying the most appropriate lands for solar development within the County. The Linear Facility Routes (LFRs) are the only portion of the Project area that is located on BLM-administered lands, and are located within a Development Focus Area (DFA) for solar, wind, and geothermal as designated by the DRECP. By being located within a DFA, the Project site is appropriate for utility-scale solar development.

State Laws, Regulations, and Policies

California Endangered Species Act (California Fish and Game Code Section 2050 et seq.). The California Endangered Species Act (CESA) was enacted in 1984 to parallel the federal ESA and allows the California Fish and Game Commission to designate species, including plants, as threatened or endangered. There are currently 156 species, subspecies, and varieties of plants that are protected as threatened or endangered under CESA. CESA prohibits take of state-listed threatened or endangered species, or candidates for listing, except as authorized under the California Fish and Game Code (CFGC). For purposes of CESA and the CFGC generally, "'take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." In contrast to the federal ESA, take under the CFGC does not include harm to or harassment of listed species. The California Department of Fish and Wildlife (CDFW), among other options, may authorize otherwise prohibited take of CESA-listed species with the issuance of an Incidental Take Permit, consistent with Sections 2081(b) and (c) of the CFGC.

Fully Protected Designations (CFGC Sections 3511, 4700, 5050, and 5515). Sections 3511, 4700, 5050, and 5515 of the CFGC outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the "take" of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. On July 10, 2023, Senate Bill 147 was signed

into law and amends the CFGC to allow a 10-year permitting mechanism for a defined set of projects within the renewable energy, transportation, and water infrastructure sectors. Furthermore, it is the responsibility of CDFW to maintain viable populations of all native species. Toward that end, CDFW has designated certain vertebrate species as California Species of Special Concern (SSC), because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

Birds (CFGC Sections 3503, 3503.5, and 3513). The CFGC prohibits take, possession, or the needless destruction of the nest or egg of any bird, except as otherwise provided by the code or related regulation. Section 3503.5 makes it unlawful to take, possess, or destroy birds of prey (in the orders Falconiformes and Strigiformes), or to take, possess, or destroy the nest or eggs of any such bird. Section 3513 prohibits take or possession of any migratory nongame bird, as designated in the federal MBTA. Section 3513 provides for the adoption of the provisions of the federal MBTA (described above).

Protected Furbearers (14 CCR 460). Section 460 in Title 14 of the California Code of Regulations (CCR) specifies that several furbearing mammals, including desert kit fox (*Vulpes macrotis arsipus*), may not be taken at any time. CDFW, in general, may permit capture or handling of these species for scientific research, but not in other circumstances.

California Native Plant Protection Act (CFGC Sections 1900–1913). California adopted the Native Plant Protection Act (NPPA) in 1977, prior to the enactment of the CESA by name in 1984. The NPPA, in general, protects endangered and rare plants designated under the act. CESA, in general, as subsequently enacted in 1984, governs the listing of and related protection of endangered plants; the take prohibition in CESA incorporates certain exceptions in Section 1913 of the NPPA. Regulations adopted by the California Fish and Game Commission provide authority to CDFW to permit incidental take of NPPA-designated rare plants, subject to certain conditions.

California Desert Native Plants Act (California Food and Agriculture Code Section 80001 et seq.; CFGC Sections 1925–1926). The provisions in the California Desert Native Plants Act (California Food and Agriculture Code, Division 23) protect specific California desert native plants (i.e., species in the families Agavaceae, Cacti, Fouquieriaceae; species in the genuses *Prosopis* and *Parkinsonia* [*Cercidium*]; and the species catclaw acacia [*Acacia greggii*], desert holly [*Atriplex hymenelytra*], smoke tree [*Dalea spinosa*], and ironwood [*Olneya tesota*]) from unlawful harvest on private and public lands in the California deserts of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties. Within these counties, the California Desert Native Plants Act prohibits the harvest, transport, sale, or possession of specific native desert plants unless a person has a valid permit or wood receipt and the required tags and seals.

Natural Community Conservation Planning Act (NCCP) (CFGC Sections 2000–2954). CDFW's Natural Community Conservation Planning (NCCP) program is an unprecedented effort by the State of California, and numerous private and public partners, that takes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. The NCCP program began in 1991 as a cooperative effort to protect habitats and species. It is broader in its orientation and objectives than the CESA and federal ESA, as these laws are designed to identify and protect individual species that have already declined in number significantly.

An NCCP program identifies and provides for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. Working with landowners, environmental organizations, and other interested parties, a local agency oversees the numerous activities that compose the development of an NCCP program. CDFW and USFWS provide the necessary support, direction, and guidance to NCCP participants.

There are currently 17 approved NCCP programs (includes 6 subarea plans) and more than 9 NCCP programs in various stages of planning (includes two subarea plans), which together cover more than 8 million acres and will provide conservation for nearly 400 special-status species and a wide diversity of natural community types throughout California.

Lake and Streambed Agreement (CFGC Sections 1600–1617). CDFW regulates project activities that would, among other things, divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake.

Porter-Cologne Water Quality Control Act of 1969 (California Water Code Sections 13000 et seq.). The Porter-Cologne Water Quality Control Act provides RWQCBs regulation of waters of the state, including state coordination with the CWA where federally jurisdictional waters are present. The Project is within the Colorado River (Region 7) RWQCB area.

Local Laws, Regulations, and Policies

Various local laws, regulations and policies apply to activities occurring on privately owned lands.

Riverside County General Plan (2015). The Riverside County General Plan includes policies addressing biological resources within the Land Use (LU) and Multipurpose Open Space (OS) elements, as follows (County of Riverside 2015, 2021a):

- **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 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 environ mental habitats (Action Item 10).
- **Policy OS 6.1.** During the development review process, ensure compliance with the Clean Water Act's Section 404 in terms of wetlands mitigation policies and policies concerning fill material in jurisdictional wetlands.
- **Policy OS 18.1.** Preserve multi-species habitat resources in the County of Riverside through the enforcement of the provisions of applicable MSHCPs [Multiple Species Habitat Conservation Plans] and through implementing related Riverside County policies. [The Project site is not within an MSHCP area.]

Desert Center Area Plan. The Desert Center Area Plan is part of the Riverside County General Plan. The Desert Center Area Land Use Plan reflects the limited development potential in the region. Much of the area is designated Open Space-Rural, with some Agriculture, rural residential, and other low-density residential and commercial opportunities. The Desert Center Area Plan notes that future development should focus on infill and contiguous expansion of the existing communities at Desert Center and Lake Tamarisk. The Desert Center Area Plan contains policies to preserve wildlife habitat, with the policy orientation again to continue the pattern of clustered development that already exists, including the following (County of Riverside 2021b):

- Policy DCAP 9.1. Encourage clustering of development for the preservation of contiguous open space.

- Policy DCAP 9.2. Work to limit off-road vehicle use within the Desert Center Area Plan.
- Policy DCAP 9.3. Require new development to conform with Desert Tortoise Critical Habitat designation requirements.

3.5.2 Environmental Setting

This description of the biological resources of the Project site is based on the Jurisdictional Aquatic Resources Report and Biological Resources Technical Report (BRTR) for the Project prepared by Ironwood Consulting Inc. (Ironwood 2023a, 2023b). The full BRTR and Jurisdictional Aquatic Resources Report are attached to this environmental impact report (EIR) as Appendices C and H.

Regional Setting

The Project consists of the solar site (located on private land) and the two linear features for access and transmission (LFRs) that are located on BLM land.

The LFRs are located within the BLM's CDCA Plan area. The Project site is located within the USFWS-designated Colorado Desert Recovery Unit for Mojave desert tortoise (USFWS 2011). No USFWS-designated critical habitat for Mojave desert tortoise occurs within the Project site. The BLM-designated Chuckwalla Desert Wildlife Management Area, established to support management and recovery of the listed threatened Mojave desert tortoise, is located approximately 4.4 miles south of the Project site just south of Interstate (I) 10.

The Project site is in the western portion of Chuckwalla Valley in the Colorado Desert. The topography of the Project site generally slopes toward the southeast at a gradient of less than 1%. Elevations within the Project site range from approximately 550 feet above mean sea level in the eastern extent to 660 feet above mean sea level near the western extent of the Project.

Much of the surrounding area is not currently used for agricultural purposes, nor has it been used for agricultural purposes for several years. Based on available U.S. Department of Agriculture Natural Resources Conservation Service crop data, agricultural operations have not occurred on site for at least 14 years; 2008 is the last year crop data are available for the Project site (USDA 2022). There is an operational semi-developed/aquaculture facility to the west and active agricultural operations to the east of the Project site. Further, the Project site currently contains fallow jojoba (*Simmondsia chinensis*) fields and a non-operational semi-developed/aquaculture area within the western portion of the site. Scattered dead jojoba shrubs and two mid-twentieth-century water pumps associated with the fallow agriculture fields remain within the Project site.

Vegetation Alliances

Most of the Project site (specifically the solar site) is located within private land that formerly supported mixed-use agricultural practices, including cultivating jojoba and aquaculture farming. As a result, natural vegetation and habitat is limited within the proposed solar site area. Vegetation alliances in the study area were mapped by botanists consistent with the National Vegetation Classification System used in the DRECP. Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986) and the Manual of California Vegetation, 2nd edition (Sawyer et al. 2009) were reviewed for synonymous vegetation types. The vegetation communities and land cover types present within the solar site area include Sonoran desert scrub, disturbed desert dry wash woodland, disturbed ephemeral dry wash, semi-developed/aquaculture, non-native riparian, and fallow agriculture. The LFRs are composed primarily of Sonoran desert scrub, with patches of desert dry wash woodland, ephemeral dry wash, non-native

riparian, fallow agriculture, and developed/disturbed. Acreages of vegetation communities in the study area are summarized in Table 3.5-1 below and mapped on Figure 3.5-1, Vegetation Communities and Land Cover Types.

Table 3.5-1. Vegetation Communities and Other Land Cover Types in the Study Area

	Private Lands	BLM Administered Lands		
Type	**Solar Site (ac)**	**LFR A (ac)**	**LFR B (ac)**	**Total (ac)**
Sonoran Desert Scrub	0.4	29.8	2.7	32.9
Desert Dry Wash Woodland	-	1.1	-	1.1
Disturbed Desert Dry Wash Woodland	6.7	-	-	6.7
Ephemeral Dry Wash	-	2.1	0.5	2.6
Disturbed Ephemeral Dry Wash	31.6	-	-	31.6
Semi-Developed/Aquaculture	96.4	-	-	96.4
Non-Native Riparian	2.7	0.4	-	3.1
Fallow Agriculture	943.8	-	2.2	946.0
Developed/Disturbed	-	0.8	1.3	2.1
Total	**1,081.6**	**34.2**	**6.7**	**1,123**

Sonoran Desert Scrub

Sonoran creosote bush scrub (synonymous with *Larrea tridentata–Ambrosia dumosa* alliance) (Sawyer et al. 2009) and Lower Bajada and Fan Mojavean–Sonoran Desert Scrub (National Vegetation Classification System) has a State Rarity rank of S5 (CDFW 2020), being demonstrably secure, and is not designated as a sensitive plant community by BLM. Sonoran creosote bush scrub occurs on well-drained, secondary soils of slopes, fans, and valleys and is the basic creosote bush scrub habitat of the Colorado Desert (Holland 1986). Dominant plants within this community are creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). The LFRs consist primarily of Sonoran creosote bush scrub.

Desert Dry Wash Woodland

Desert dry wash woodland is a sensitive vegetation community recognized with a rarity rank of S4: Apparently Secure–At a fairly low risk of extirpation in the state due to an extensive range and/or many populations or occurrences, but with possible cause for some concern because of local recent declines, threats, or other factors (CDFW 2023). Desert dry wash woodland is characteristic of desert washes and is considered a desert riparian vegetation type, which is typically state jurisdictional. Holland (1986) describes this community as an open to relatively densely covered, drought-deciduous, riparian scrub woodland, often supported by braided wash channels that change following every surface water flow event.

This community was mostly restricted to narrow wash channel portions within LFR A and a small amount was mapped within the solar site. Within LFR A and the Solar Site, this vegetation community is dominated by an open tree layer of ironwood, blue palo verde, and smoke tree (*Psorothamnus spinosus*) of at least 2-3% cover within braided wash channels. Desert dry wash woodland within the LFRs is relatively intact and undisturbed; however, woodland habitat within the Solar Site occurs within disturbed agricultural land. Earthen levees that surround the perimeter of the Solar Site have restricted surface hydrology throughout much of the existing agricultural land. Two openings in the levees have allowed surface water to flow onto the Solar Site where it then follows an unnatural direction along dirt roads used during agricultural practices. Desert dry wash woodland tree species have regrown along these two artificial washes within the Solar Site; however, the woodlands occur in narrow and disjunct bands, and trees are diminutive in stature. Subsequently, the wash features and associated woodlands within the fallow

agricultural lands provide lower resource value compared to woodlands that occur in the relatively undisturbed lands outside the Solar Site and are therefore mapped as disturbed desert dry wash woodland land cover type.

Ephemeral Dry Wash

Ephemeral dry wash features were delineated within the LFRs and the Project. This vegetation community courses through Sonoran desert bush scrub and desert dry wash woodland within the LFRs. Ephemeral dry washes within the LFRs are relatively undisturbed; however, within the Solar Site, previous agricultural practices have resulted in substantial disturbance to ephemeral dry wash features. As described above, earthen levees that surround the perimeter of the Solar Site have restricted surface hydrology throughout much of the existing agricultural land, relegating surface water to flow within the Solar Site primarily to two unnatural wash features that follow dirt roads used during agricultural practices. These ephemeral wash features within the Solar Site are therefore mapped as disturbed ephemeral wash.

Fallow Agriculture

The Solar Site was previously used for cultivating jojoba. Areas mapped as fallow agricultural support remnant jojoba shrubs and ruderal vegetation including several non-native plant species. This vegetation community was mapped as "Deciduous Orchard, Vineyard, and Cropland, Barren" in the DRECP Land Cover/Natural Vegetation Communities. There is no associated Holland (1986) or Sawyer et al. (2009) classification for this anthropogenic land cover type.

Semi-developed/Aquaculture

Evidence of past farming disturbances (e.g., irrigation lines and dirt access roads) were found throughout the solar site and aquaculture farming.

Developed/Disturbed

Existing dirt and paved roads were classified as developed/disturbed. While these features primarily occur on private lands adjacent to the LFRs, their mapped extents were found to marginally overlap the LFRs.

Non-native Riparian

Non-native riparian areas are dominated by invasive salt cedar (*Tamarix chinensis/T. ramosissima* hybrid), which is rated as "high" by Cal-IPC and identified as a noxious weed by the California Department of Food and Agriculture. Portions of the prior aquaculture farm support relic created aquatic features including non-native riparian areas, which were created as an artifact of agricultural practices (Appendices C and H). These features were artificially supported by agricultural water and would be expected to revert to an upland community in the absence of this water source.

Jurisdictional Waters

Waters were delineated on the Project site that could be subject to the regulatory authority of CDFW, the USACE, and the Colorado River Basin RWQCB using desktop and field investigations during spring 2022 (Appendix H). The limits of non-wetland waters potentially subject to state or federal jurisdiction were determined following the methods outlined in the USACE Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States (Lichvar and McColley 2008), Mapping Episodic Stream Activity (Brady and Vyverberg 2013), Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants (Brady and Vyverberg 2014), and CDFW's regulatory definition of bed, channel, or bank as referenced in Section

1602(a) of the CFGC. Delineated aquatic resources are shown in Figure 3.5-2, Aquatic Resources, and summarized by area in Table 3.5-2 below.

Table 3.5-2. Aquatic Resources

U.S. Army Corps of Engineers CWA Section 4042	**—**	**—**	**—**	**0.0**
RWQCB Waters of the State				
Ephemeral Dry Wash	—	2.1 15,005 lf	0.5 1,279 lf	2.6 16,284 lf
Disturbed Ephemeral Dry Wash	31.6 52,407 lf1	—	—	31.6 52,407 lf1
Total Waters of the State	**31.6**	**2.1**	**0.5**	**34.2**
CDFW 1602 Resources				
Ephemeral Dy Wash1	—	2.1 15,005 lf	0.5 1,279 lf	2.6 16,284 lf
Disturbed Ephemeral Dry Wash	31.6 52,407 lf1	—	—	31.6 52,407 lf1
Desert Dry Wash Woodland (Native Riparian)1	—	1.1	—	1.1
Disturbed Desert Dry Wash Woodland (Native Riparian)	6.7	—	—	6.7
Nonnative Riparian	2.7	0.4	—	3.1
Total CDFW 1602 Resources	**41.0**	**3.6**	**0.5**	**45.1**

Source: Ironwood 2023a.

Notes: ac = acres; CWA = Clean Water Act; RWQCB = Regional Water Quality Control Board; lf = linear feet; CDFW = California Department of Fish and Wildlife.

[1] Ephemeral dry wash coinciding with native riparian habitat was mapped and calculated separately.

[2] Aquatic resources are not subject to federal jurisdiction pursuant to CWA Section 404 as indicated in the Approved Jurisdictional Determination (AJD) received from the U.S. Army Corps of Engineers (James Mace pers. comm. 12/8/2023).

Waters of the United States

Aquatic resources delineated within the Project site exhibit indicators of surface connections to Big Wash, an ephemeral riverine feature situated northeast of the Project site. Big Wash conveys flows to Palen Lake, an intrastate isolated ephemeral lake that lacks a direct or subsurface connection to a known traditional navigable water or tributary to a traditional navigable water and has not been previously defined as a relatively permanent water. Given the absence of a nexus to WOTUS, the aquatic resources in the Project site are not expected to be subject to federal jurisdiction pursuant to CWA Section 404 under Supreme Court precedent or current WOTUS regulations.

Waters of the State

RWQCB may exert jurisdiction over surface water or groundwater within the boundaries of the state. Accordingly, natural and disturbed ephemeral washes within the Project site could potentially be subject to RWQCB jurisdiction as waters of the state even if they do not qualify as WOTUS. Review of historic aerial imagery suggests that the locations and extents of previously identified artificial basins and associated wetlands have varied due to agricultural practices and fluctuating irrigation water inputs. In 2022, these features, which were artificially created, potentially met the definition of a wetland by the RWQCB; however, since removal of the artificial water source these artificial resources have converted back to upland habitat and disturbed ephemeral dry wash. Approximately 31.6 acres of waters (disturbed ephemeral dry wash) potentially subject to RWQCB jurisdiction occur within the Solar Site and 2.6 acres of potential RWQCB jurisdictional waters (ephemeral dry wash) occur within LFRs (Table 3.5-2).

Similarly, CDFW regulates alterations to state-jurisdictional waters under Section 1600 et seq. of the CFGC. Jurisdictional acreage is interpreted as the bed and banks of channels and adjacent riparian vegetation. Ephemeral washes, including natural and disturbed washes, delineated within the Project appear to meet the Title 14 CCR Section 1.72 definition of a stream and are potentially subject to jurisdiction under CDFW Section 1600 et seq. (CFGC Sections 1600-1616). Native riparian woodland (desert dry wash woodland) associated with ephemeral washes and nonnative riparian associated with prior artificial basins have been included in CDFW jurisdictional calculations (Table 3.5-2). A total of 31.6 acres of waters (disturbed ephemeral dry wash) and 9.4 acres of riparian habitat (native and non-native) potentially subject to CDFW jurisdiction occur within the Solar Site. Approximately 2.6 acres of potential CDFW jurisdictional waters (ephemeral dry wash) and 1.5 acres of native and nonnative riparian woodland occur within LFRs.

Special-Status Plants and Wildlife

Special-status species are plant and animal species that have been afforded special recognition by federal, state, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under CESA or the federal ESA
- Protected under other regulations (e.g., MBTA, Bald and Golden Eagle Protection Act)
- CDFW Species of Special Concern
- Plant species ranked by the California Native Plant Society
- DRECP Focus and Planning Species
- BLM Special-Status Species designated by the BLM California State Director
- USFWS Sensitive Species
- Meet the definition of an endangered, rare, or threatened species under CEQA Guidelines Section 15380

Special-Status Plants

Focused special-status plant surveys of the Project site were conducted in spring 2022. The field methods were consistent with protocols recommended by USFWS, CDFW, California Native Plant Society, and BLM. The BRTR (Appendix C) identifies special-status plants with the potential to occur within the site and vicinity of the Project (approximately 5 miles); evaluates the probability of occurrence for each species based on habitat, elevational, and geographic ranges; and presents field survey results.

All special-status plant species that were determined to have a moderate to high potential to occur on the Project site or that were observed during 2022 field surveys are described in Appendix C. The special-status plant species discussed further in the paragraphs below were documented on the Project site during the 2022 surveys (Figure 3.5-3, Special-Status Plants).

Jackass clover; CRPR 2B.2. Jackass clover (*Wislizenia refracta* ssp. *refracta*) is an annual herb native to California, found in dunes and playas of creosote bush scrub (Sonoran Desert Scrub). It has a California Rare Plant Rank (CRPR) of 2B.2. The Consortium of California Herbaria (CCH) includes 28 records, with one historic record in Riverside County. Jackass clover was observed at one locality on site in the southeast corner of the solar site, and not detected within the LFRs (Figure 3.5-3).

Desert unicorn plant; CRPR 4.3. Desert unicorn plant (*Proboscidea althaeifolia*) is a low-growing, perennial species that occurs in sandy washes within Sonoran Desert scrub vegetation in San Bernardino, Imperial, Riverside, and San Diego Counties of California. It is a late-season bloomer (May to August) but has large and distinctive seed pods that can be detected during the spring season and fleshy root structure that can remain dormant in dry years (BLM and USFWS 2014). There are 95 records from the CCH database, including 32 records in Riverside County (CCH 2022). This species was observed and recorded during the focused surveys along LFR B, and several occurrences were observed within the Project site (Figure 3.5-3).

California Ditaxis; CRPR 3.2. California Ditaxis (*Ditaxis serrata* var. *californica*) is a perennial herb endemic to California and found in the creosote bush scrub vegetation community. The CCH includes 41 records where 35 are in Riverside County. Many occurrences of this species were found in the solar site area during the 2022 focused surveys (Figure 3.5-3).

Special-Status Wildlife

Ironwood Consulting Inc. conducted full-coverage wildlife surveys of the Project site in spring and fall 2022. The surveys are described in Biological Resources Technical Report (Appendix C). The surveys focused on identifying individuals or signs of special-status species, including desert tortoise, Mojave fringe-toed lizard (*Uma scoparia*), western burrowing owl (*Athene cunicularia hypugaea*), desert kit fox, and American badger (*Taxidea taxus*), and other species as appropriate. In addition to focused surveys for specific animals, the surveys were designed to characterize habitat suitability for all special-status wildlife, including presence or absence of unique habitat features such as potential breeding pools for Couch's spadefoot toad (*Scaphiopus couchii*) or suitable roosting sites for special-status bats.

Surveys for desert tortoise were conducted per the USFWS protocol using belt transects at approximately 32 feet apart to provide 100% (full) coverage for the Project site consistent with protocol survey methods (USFWS 2018). Focused surveys consistent with the California Department of Fish and Game Staff Report on Burrowing Owl Mitigation (CDFG 2012) were performed based on a dataset derived from full coverage surveys. Burrows exhibiting the potential for burrowing owl were surveyed three additional times, spaced at approximately 3-week intervals. Areas with evidence of historical ponding were recorded during focused wildlife surveys and resurveyed following heavy rains on August 20, 2022, for any sign of Couch's spadefoot. An avian biologist also conducted point counts each morning of desert tortoise surveys and assessed habitat for various bird and bat species. A focused protocol-level survey for western burrowing owl was conducted based on the results of the full-coverage surveys.

During all wildlife surveys, biologists recorded all wildlife species observed, regardless of status. All special-status wildlife that are anticipated to have a potential to occur on the Project site or were observed during field surveys, are listed and described in Appendix C. Species present or with high potential to occur are reviewed further below. A detailed discussion of all special-status wildlife analyzed for the Project, including their ranges and habitat requirements, is presented in Appendix C (BRTR).

Reptiles

Agassiz's (Mojave) desert tortoises (*Gopherus agassizii*); FT, SCE. Within the LFRs and Solar Project, the predicted occupancy value ranges from 0.1 (very low) within LFR A to 0.3 (medium-low) at the eastern edge of LFR B. Further, the predicted occupancy does not account for habitat degradation resulting from existing anthropogenic features, which would further reduce the occurrence probability, especially in areas subjected to regular human disturbance such as the fallow agricultural fields where the solar facility is proposed.

Birds

Western Burrowing owl; SSC, USFWS—Birds of Conservation Concern (BCC), BLM Sensitive (S), DRECP Focus Species. These small owls inhabit arid lands throughout much of the western United States and southern interior of western Canada (Haug et al. 1993). Suitable habitat for western burrowing owl includes open habitat with available burrowing opportunities, including agricultural fields (active and fallow), creosote scrub, desert saltbush, ephemeral washes, and ruderal areas. Burrowing owls are unique among the North American owls in that they nest and roost in abandoned burrows, especially those created by ground squirrels, kit fox, desert tortoise, and other wildlife. Burrowing owls have a strong affinity for previously occupied nesting and wintering sites and will often return to previously used burrows, particularly if they had successful reproduction in previous years (Gervais et al. 2008). The DRECP distribution model for burrowing owl suggests that the LFRs and solar site support suitable habitat for burrowing owl. Active sign of this species was present within the solar site, but no sign of the species was observed within the LFRs. No individual burrowing owls or evidence of nesting were found during the 2022 focused surveys; however, there were six burrows suitable for burrowing owl use identified within the Solar site (Figure 3.5-4, Western Burrowing Owl) that possessed whitewash and pellets indicating likely use by burrowing owls. The focused protocol surveys indicated no presence of nesting pairs, suggesting that burrowing owls likely use burrows within the Project as temporary shelter or overwintering but not for nesting.

Costa's hummingbird (*Calypte costae*) (Nesting), BCC. Costa's hummingbird is found in the Sonoran Desert in desert washes with palo verde (*Parkinsonia florida*), jojoba, desert lavender (*Condea emoryi*), or chuparosa (*Justicia californica*), on steep rock slopes, and in lowlands with saguaro (*Carnegiea gigantea*), creosote bush, and cholla cacti (*Cylindropuntia* spp.) typically below 3,000-foot elevation. In the Mojave Desert, they frequent scrub and woodlands near springs and streams with cottonwoods (*Populus* spp.), brittlebrush (*Encelia farinosa*), fourwing saltbush (*Atriplex canescens*), and other species from near sea level to 4,000-foot elevation. Costa's hummingbirds typically build a nest in palo verde, ironwood, cholla, acacia, graythorn (*Ziziphus obtusifolia*), and other shrubs. Costa's hummingbird was detected in the vicinity of Project and has a high potential for occurrence within LFR A and a moderate potential to occur elsewhere within the solar site.

California horned lark (*Eremophila alpestris actia*); CDFW Watch List Species (WL). The California horned lark is found throughout California except the north coast and is less common in mountainous areas. It nests in open areas and there are numerous records in Riverside County. California horned larks were observed in the vicinity Project , and the Project contains suitable habitat for this species. There is a high potential for occurrence within the LFRs and solar site.

Loggerhead shrike (*Lanius ludovicianus*); SSC (nesting), BCC. Loggerhead shrikes are uncommon year-round residents throughout much of Southern California. They initiate their breeding season in February and may continue with raising a second brood as late as July. Suitable habitat is present within the LFRs and solar site. One loggerhead shrike was observed within the southwestern extent of the solar site (none observed within the LFRs) during the 2022 surveys. This species has a high potential to forage and possibly nest within the within the LFRs and solar site.

Black-tailed gnatcatcher (*Polioptila melanura*); WL. Black-tailed gnatcatchers are year-round residents in southeastern California and east through Arizona to southern Texas and northern Mexico. They are found in arid scrublands, desert brush, and dry washes. Suitable foraging and potential nesting habitat are present throughout the Project site. This species was detected in the vicinity of the Project and has a high potential for occurrence within LFR A and a moderate potential to occur elsewhere within the solar site.

LeConte's thrasher (*Toxostoma lecontei*); SSC. LeConte's thrasher is a year-round resident in the Colorado Desert, occurring in desert flats, washes, and alluvial fans with sandy or alkaline soil and scattered shrubs. Its preferred nest sites are thorny shrubs and small desert trees; nesting rarely occurs in monotypic creosote scrub habitat or Sonoran Desert woodlands. This species was not found during surveys for the Project in 2022. The DRECP distribution model for Le Conte's thrasher indicates suitable habitat approximately 2 miles west of the Project site. Suitable foraging and nesting habitat occur only within the LFRs; therefore, this species has a moderate potential to occur within the Project site.

Golden eagle (*Aquila chrysaetos*); California Fully Protected Species, BLM S, and DRECP Focus Species. Potential foraging habitat, no potential nesting. No eagles were observed during surveys for the Project in 2022. Golden eagles may occasionally be found in flight over the portion of Chuckwalla Valley where the LFRs and Solar Project are located; however, the potential for occurrence is low due to limited foraging habitat and distance from nesting habitat.

Mammals

Burro deer; California Protected Game Species and DRECP Focus Species. Burro deer is a subspecies of mule deer (*O. hemionus*) that inhabits desert dry wash woodland communities in the Colorado region of the Sonoran Desert near the Colorado River. During hot summers, burro deer concentrate along the Colorado River (approximately 50 miles east of Project) or the Coachella Canal (approximately 30 miles southwest of Project site) where water developments have been installed and where microphyll woodland is dense and provides good forage and cover. With late summer thundershowers and cooler temperatures, burro deer move away from the Colorado River and Coachella Canal into larger washes or wash complexes in the foothills and nearby mountains (BLM 2002). Burro deer scat and tracks were dispersed throughout the LFRs and Solar site, but no live individuals were detected. This species has a high potential to occur within the Project

Desert Bighorn Sheep, California Protected Game Species and BLM Sensitive Species. The desert bighorn sheep (*Ovis canadensis nelson*; also called Nelson's bighorn sheep) is a California Protected Game Species and BLM Sensitive Species. This species is found in the Transverse Ranges through most of the desert mountain ranges of California, Nevada, and northern Arizona to Utah. The Project is well outside the range of the listed threatened Peninsular bighorn sheep. Bighorn sheep populations have been fragmented by highways, roads, railroads, and aqueducts. The I-10 represents a major obstacle to bighorn sheep movements. Desert bighorn sheep have been documented in the Chuckwalla Mountains south of the Project and the Eagle Mountains to the west, which is consistent with the DRECP distribution model. No evidence of bighorn sheep was found during the focused surveys; this species is not expected to occur within the Project.

American badger; SSC. The American badger is found in many habitat types where there is an adequate prey base of burrowing rodents and friable soils. Suitable habitat exists for American badgers on the Project site. A skull of an American badger was found along the southeastern boundary of the adjacent semi-developed/aquaculture facility located west of the Project site. Additionally, an inactive burrow was recorded along the northeastern boundary of the semi-developed/aquaculture facility located west of the Project site. Another potential badger burrow was detected just outside the eastern boundary of the fallow agricultural field. No live individuals were detected during surveys; but, evidence of American badgers was recorded within the solar site. American badger has a high potential to occur within the LFRs and solar site based on these observations within the Project site and occurrences of the species within the Chuckwalla Valley.

Desert kit fox; California Protected Furbearing Mammal. Desert kit fox is not recognized as rare, but it is a protected fur-bearing mammal pursuant to Section 460 in Title 14 of the California Code of Regulations, which stipulates that desert kit fox may not be taken at any time. Desert kit fox is a fossorial mammal that occurs in arid open areas, shrub grassland, and desert ecosystems within the Mojave and Sonoran Deserts. Desert kit fox typically occurs in association with its prey base, which includes small rodents, primarily kangaroo rats, rabbits, lizards, insects, and in some cases, immature desert tortoises (Zeiner et al. 1988–1990). Two active burrows were observed in the Project site which contained evidence of recent activity with the presence of scat, tracks, and dig marks (Figure 3.5-5, Desert Kit Fox). Twenty-seven inactive kit fox burrows in varying condition were detected within the Project site during the 2022 surveys. This species has a high potential for occurrence within the LFRs and solar site.

Special-status bats. Bat roosts are known to occur in the vicinity of the Project site, primarily associated with the surrounding mountains and mines. Roosts may also occur under bridges, including those of I-10; however, bridges in the Project vicinity tend to be smooth cement, which provide limited roosting potential. Roosting opportunities for several bat species (e.g., canyon bat and California myotis) may occur in tree cavities, soil crevices, and rock outcroppings primarily within dry desert wash woodland habitats (CEC 2010). Six special-status bat species may forage on or near the Project site, as described below and discussed further in Appendix C. Suitable, albeit limited, roosting habitat may occur for several of these species within the dry wash woodland habitat located along the LFRs and solar site. It is not expected that any special-status bat species would have a substantial roost on the LFRs or solar site because habitat features most associated with these species (e.g., rock ledges, cliffs, large tree hollows, mine shafts) do not occur on site. The possibility exists for incidental observations for these species. Other special-status bat species known from the region typically inhabit rocky sites and would not be expected to use the Project site for roosting.

- Townsend's big-eared bat (*Corynorhinus townsendii*); SSC, BLM S. Foraging habitat in desert dry wash woodland. No roosting habitat.
- California leaf-nosed bat (*Macrotus californicus*); SSC, BLM S. Suitable foraging habitat, but no roosting habitat.
- Pallid bat (*Antrozous pallidus*); SSC, BLM S. Marginal foraging and roosting habitat in limited dry wash woodland habitat associated with the LFRs.
- Western mastiff bat (*Eumops perotis californicus*); SSC, BLM S. Suitable foraging habitat, but no roosting habitat.
- Western yellow bat (*Lasiurus xanthinus*); SSC. The Project site lacks typical foraging and roosting habitat for western yellow bat; however, this species may be found foraging on or near the Project site due to the proximity of the existing agricultural lands.
- Big free-tailed bat (*Nyctinomops macrotis*); SSC. Marginal foraging and roosting habitat within the limited dry wash woodland habitat associated with the LFRs.

Wildlife Movement

Wildlife movement between occupied habitat blocks is important for long-term population sustainability. Accessibility between habitat blocks (i.e., "connectivity") is important to long-term genetic diversity and demography of wildlife populations. In relatively undeveloped areas, including the Chuckwalla Valley, wildlife habitat is available in extensive open space areas throughout much of the region (e.g., conservation lands and wilderness areas), but natural and anthropogenic barriers (e.g., paved roadways and developed areas) may impede or prevent wildlife movement. Movement opportunity also varies for

each species depending on their mobility, physiology (e.g., resistance to desiccation), and behavior. For many terrestrial wildlife species, movement across the Chuckwalla Valley, including movement to and from the Project, or across the site, is limited by anthropogenic barriers or land uses. Kaiser Road, State Route 177, and the I-10 freeway all act as significant obstructions to movement by terrestrial wildlife. Existing and future solar projects within the DFA around Desert Center and around the LFRs and solar site, in particular (e.g., the operating Desert Sunlight and Desert Harvest projects to the north and an approved Intersect Power project to the east), also have the potential to influence wildlife movement.

Several wildlife connectivity models have been developed for the DRECP area. The DRECP (LUPA-BIO-13) identifies four California Desert Linkage Network areas within the plan area. The Project site is located approximately 3.3 miles north from the closest multi-species linkage, which consists of a 1.5-mile-wide linkage across I-10 to connect the Chuckwalla Mountains to the Chuckwalla Valley east of Desert Center. Due to its distance from them, the Project would not impact any DRECP multi-species linkages.

The California Desert Connectivity Project provides a comprehensive habitat connectivity analysis for the California deserts (Penrod et al. 2012). The Connectivity Project identified a Desert Linkage Network to maintain habitat for movement between landscape blocks. The landscape blocks identified in the Project vicinity are the Eagle Mountains approximately 3.4 miles to the west and the Coxcomb Mountains approximately 3.5 miles to the northeast (Figure 3.5-6, Wildlife Connectivity). Broad habitat linkages were identified in the California Desert Linkage Network, and the most prominent linkage in the Project vicinity extends from the southern base of the Coxcomb Mountains south along the foothills of the Eagle Mountains and across the I-10 into the Chuckwalla and Orocopia Mountains (Figure 3.5-6).

The primary purpose of desert tortoise linkages is to maintain a network of occupied habitat that interconnects Tortoise Conservation Areas. The Pinto Wash Linkage is identified in the DRECP as an important linkage for desert tortoise connectivity and its boundaries have varied since it was first described by USFWS in a project-specific Biological Opinion prior to the development of the DRECP (DRECP Gateway 2014). The predicted occupancy model (Nussear et al. 2009) identifies where tortoises are likely to occur. Contiguous, high value predicted occupancy represents areas that are important to tortoise connectivity. Within the Pinto Wash Linkage, high value contiguous habitats are located approximately 2.5 miles northwest of the western terminus of LFR A. The location of high habitat quality is consistent with the DRECP designation of this area as ACEC.

Development within the Pinto Wash Linkage would be limited to LFR A, which is sited in the DFA and does not occur within the high-quality habitat of the Pinto Wash Linkage nor within the areas that have been modelled as a functional linkage area. LFR A is located within the southern portion of the Pinto Wash Linkage that has low predicted occupancy and low potential for tortoise connectivity. The Desert Sunlight, Desert Harvest, and Athos solar facilities are also located in lower-value habitat and their presence on the landscape further reduces potential for tortoise connectivity through the southern extent of the Pinto Wash Linkage.

Furthermore, LFR A would not result in permanent barriers to tortoise movement. The total potential right-of-way associated with LFR A would be a maximum of 34.1 acres; however, actual disturbance resulting from final design would be substantially less than 34.1 acres because (1) only one of the two LFR alternatives would include the gen-tie line, (2) the entire 75’ right-of-way would not be disturbed, and (3) actual disturbance would be limited to the footprint of gen-tie structures, access road, spur roads, temporary pulling and tensioning sites, and other associated infrastructure.

3.5.3 Impact Analysis

In the impact assessment presented in this EIR, potential direct, indirect, and cumulative impacts of the Project are identified and disclosed. Examples of potential direct impacts to biological resources include mortality, injury, or displacement of special-status plants or animals; loss or degradation of native habitat; interference with wildlife movement or migration; and disturbance to plants, animals, and habitat from noise, light, or dust. Examples of potential indirect impacts that occur later in time or farther removed in distance include erosion, sedimentation, introduction of invasive species, or increased predation on native wildlife due to habitat alterations (e.g., perch sites or "subsidies" for predators). Direct and indirect impacts include those from development, operation and maintenance, and decommissioning of the Project.

Methodology

The existing Riverside County General Plan and Desert Center Area Plan review of biological resources with potential to occur within the Project site (described in Section 3.5.2, Environmental Setting; Appendix C, BRTR; and Appendix H, Jurisdictional Aquatic Resources Report) were used to determine biological resources within the Project area. The potential impacts of the Project are then determined based on how the Project could impact the biological resources according to criteria specified below.

Criteria for Determining Significance

Section IV of Appendix G to the CEQA Guidelines addresses typical adverse effects to biological resources and includes the following threshold questions to evaluate a project's impacts on biological resources. Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

d) Interfere substantially with the movement of any 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?

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Significance thresholds set forth in Riverside County's Environmental Assessment Checklist are derived from Section IV of Appendix G to the State CEQA Guidelines and state that the project would have a significant impact on biological resources if construction and/or operation of the project would:

a) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state conservation plan.

b) 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).

c) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U. S. Wildlife Service.

d) 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.

e) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U. S. Fish and Wildlife Service.

f) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

g) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Environmental Impacts

This section includes an examination of the Project's impacts to biological resources per the County's Environmental Assessment Checklist and Appendix G of the State CEQA Guidelines identified above.

Threshold a: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state conservation plan?

LESS THAN SIGNIFICANT. The Project is not within an area covered by an adopted Habitat Conservation Plan, a Natural Community Conservation Plan or other approved local or state conservation plan. However, as described in Section 3.5.1, Regulatory Framework, the DRECP is being considered a regional conservation plan relevant to review of the Project under CEQA, as it serves as a tool for identifying the most appropriate lands for renewable energy development within the County. The Project is evaluated for consistency with the DRECP for informational purposes only; with the exception of the Project's LFRs on BLM-managed lands, to which the DRECP applies, the Project is not required to be consistent with the DRECP from a regulatory compliance perspective because Riverside County as the land agency having jurisdiction over the Project components located on private lands did not adopt the DRECP. In addition, as noted in Section 3.5.1, BLM considers the DRECP a landscape-level plan that intends to streamline renewable energy development while conserving unique and valuable desert ecosystems and providing outdoor recreation opportunities.

Further, as described in Section 3.5.1, the Project does not conflict with the DRECP, as it is located within lands designated by the DRECP for solar, wind and geothermal development. Therefore, issuance of the Permits specifically and approval of the Project under CEQA as the whole of the action would not result in significant impacts to the environment because of a conflict with an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plan. Impacts would be less than significant.

Threshold b: Would the project 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)?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Potential direct and indirect Project impacts to special-status plants, animals, and their habitats are described below. Mitigation Measures are evaluated for their effectiveness in avoiding and minimizing impacts to reduce impacts to less than significant (listed in Section 3.5.4, Mitigation Measures), and are identified in the sections below.

Special-Status Plants. The results of surveys conducted indicate that Project construction could directly impact special-status plant species. Direct impacts to special-status plants may include destruction of individual plants, disruption of soil seed banks, and loss or degradation of habitat. Indirect impacts to special-status plants are similar to those described below for vegetation and habitat. Three special-status plants were observed on the Project site (Figure 3.5-3). Several occurrences of Desert unicorn plant CRPR 4 (watch list) were observed within the Project site. However, because of the local abundance of Desert unicorn plant and its stable range in California as a CRPR 4 (watch list) species without additional reasons for conservation concern, potential impacts to Desert unicorn plant would be less than significant. Jackass clover (CRPR 2B.2) was observed at one locality on site in the southeast corner of the solar site. California ditaxis (CRPR 3.2) was observed at several locations within the Project site. Impacts to jackass clover and California ditaxis would also be considered less than significant with implementation of Mitigation Measures, which would minimize impacts to the plants present on the Project site.

No other special-status plant species were observed or had a high potential to occur within the Project site. Several other species classified as CRPR 2 and 4 have a moderate potential to occur on the Project site. And, although they were not located during field surveys and the site provides low quality potential habitat, it is possible they could occur within the Project site prior to the start of construction and thus some of these special-status plants may be directly impacted. However, impacts to special-status plants would be minimized by implementing the MMs, listed below.

MM BIO-1 through MM BIO-6 would reduce direct and indirect impacts to special-status plants. Additionally, MM BIO-7 (Special-Status Plant Species Mitigation) would mitigate potential impacts to special-status plants by horticultural propagation and off-site introduction. Because salvage may be a feasible mitigation strategy for special-status plants for the Project, the measure includes the possibility of contracting a qualified institution to translocate them off site. Refer to Section 3.5.4 for the full MMs.

MM BIO-1 (Biological Monitoring) requires the use of Biological Monitors during construction to ensure that construction crews avoid impacts to vegetation and habitat that are outside the development footprint and that sensitive resources are properly flagged. MM BIO-2 (Worker Environmental Awareness Program) requires a Worker Environmental Awareness Program (WEAP) to train all construction crews on sensitive resources and measures to avoid and minimize impacts. MM BIO-3 (Minimization of Impacts to Native Vegetation) requires that vehicles and equipment park in previously disturbed or developed areas to the maximum extent possible to avoid impacts to special-status species. MM BIO-5 (Integrated Weed Management Plan) requires the use of best management practices (BMPs) to minimize introduction and the spread of invasive plant species to protect native habitat from infestation and to protect special-status species from being outcompeted. The Project would also implement MM BIO-6 (Vegetation Resources Management) that requires revegetation of temporarily disturbed areas to minimize effects to special-status species and associated habitat.

Incorporation of the MMs described above would avoid and minimize indirect or direct impacts to special-status plants and special-status species vegetation and habitat. With the implementation of the MMs described above, impacts would be reduced to less than significant.

Special-Status Wildlife

Direct impacts to wildlife include mortality, injury, or displacement of special-status animals; loss or degradation of native habitat; interference with wildlife movement or migration; and disturbance to wildlife and habitat from noise and light. Indirect impacts are those effects that are caused by or will result from the Project, later in time or farther removed in distance, but are still reasonably certain to occur. Examples of indirect effects to native habitat include erosion, sedimentation, and introduction of invasive species that may cause habitat degradation. An example of an indirect effect to wildlife is increased predation due to certain habitat alterations (e.g., creation of perch sites or "subsidies" for predators).

Construction activities would likely cause mobile vertebrate wildlife to leave or attempt to leave the site. Animals dispersing from the site could be at increased risk of predation and possible vehicle collisions as they flush from cover during site clearing. After leaving their home territories, displaced animals may be unable to find suitable food or cover in new, unfamiliar areas. Displacement effects would apply to common wildlife species and to special-status species.

Construction could cause mortality of small mammals and reptiles, including special-status species, which may be crushed by construction equipment. In most cases, adult birds would fly away from the disturbance, but bird nests (including eggs or nestlings, if present) would be lost. Burrowing owls, if present during construction, would tend to shelter inside burrows where they could be vulnerable to crushing. Land use conversion could exclude special-status reptiles, birds, and mammals from portions of their territories. Facilities could present hazards to wildlife, including special-status wildlife. For example, vertical structures can be collision hazards for birds or bats in flight; trenches can be pitfall hazards for terrestrial wildlife; and construction materials such as open pipes or tubing can attract birds or terrestrial species, which can become trapped inside.

Noise and lighting during construction could affect wildlife in adjacent habitats by disrupting foraging, breeding, sheltering, and other activities or may cause animals to avoid otherwise suitable habitat surrounding the site. Lighting during construction may affect nocturnal wildlife species by causing alterations to foraging or movement behavior, possibly attracting some species to the site (e.g., bats may be attracted to insects at light sources) or dissuading other species from approaching the site. Various other human activities (e.g., vehicle traffic, accumulated waste, or nuisance water sources) can be injurious to special-status wildlife, either as direct hazards (vehicle strikes) or as attractants such as food or water that may put animals in harm's way. Operational lighting would be the minimum needed, with nighttime lighting limited to areas required for operation, safety, or security. Nighttime lighting would be directed or shielded from major roadways or possible outside observers. Motion sensitive security lights would be installed to minimize the amount of nighttime lighting.

Burrowing owl. Six active burrowing owl burrows were observed within the Project site (Figure 3.5-4). Potential direct Project impacts to burrowing owl includes loss of nest sites, eggs, or young; the permanent loss of breeding and foraging habitat; and disturbance of nesting and foraging activities for burrowing owl pairs.

MM BIO-1 through MM BIO-7 would minimize adverse direct and indirect impacts to burrowing owl and associated native vegetation and offset the permanent habitat loss through off-site habitat compensation. MM BIO-4 (Minimization of Impacts to Wildlife) and MM BIO-8 (Minimization of Impacts to Birds and Bats) would prevent or minimize potential injury to burrowing owl by identifying occupied burrows and safely

excluding the owls through passive relocation. Incorporation of MMs would avoid and minimize indirect or direct impacts to burrowing owl. Refer to Section 3.5.4 for the full MMs. These measures are expected to effectively avoid take of burrowing owls by excluding them from the Project area or, if active nests are present, by avoiding disturbance in surrounding buffer areas. With incorporation of relevant MMs, impacts to burrowing owl would be less than significant.

Desert kit fox and American badger. Active and inactive desert kit fox burrows were detected within the Project during the 2022 surveys, but no individuals were detected during surveys. Suitable habitat for American badgers is located on the Project and evidence of American badgers was recorded within the Project; however, no individuals were detected during surveys. Both species have a high potential to occur based on these observations and recorded occurrences near the Project area.

Both species could use native habitats wherever prey animals may be present, and soils are suitable for burrows. Potential direct impacts during construction, operation, maintenance, and decommissioning to American badger and desert kit fox include mechanical crushing of individuals or burrows by vehicles and construction equipment and habitat loss. Potential indirect effects include vehicle collisions, noise, lighting, and disturbance to surrounding habitat. Exclusion or security fencing could entrap desert kit foxes or badgers in the construction area. MM BIO-1 through MM BIO-7 would minimize adverse direct and indirect impacts to special-status wildlife species and associated native vegetation and offset the permanent habitat loss through off-site habitat compensation. MM BIO-4 (Minimization of Impacts to Wildlife) and MM BIO-9 (Desert Kit Fox and American Badger Relocation) would prevent or minimize potential injury to desert kit fox and American badger. MM BIO-4 identifies practices and requirements to prevent or minimize wildlife injury and mortality. MM BIO-9 specifies details for pre-construction surveys, exclusion of animals from dens, passive relocation from the site, and avoidance of natal dens. Refer to Section 3.5.4 for the full MMs. With implementation of MMs, impacts to desert kit fox and American badger would be less than significant.

Burro deer. Nearby active agricultural areas provide a dependable water source for burro deer. Additionally, desert dry wash woodland habitat may provide seasonal foraging or cover habitat for burro deer. Potential impacts of the Project could include loss of habitat. Project site security fencing would prevent deer from freely crossing the solar sites, which may further limit their access to water sources during construction, operation, maintenance, and decommissioning. There are culverts/underpasses at washes along I-10 shown on Figure 3.5-6 where burro deer could cross from the south into or near the Project site.

Burro deer are expected to avoid Project-related disturbance during construction. No special measures are necessary to exclude them from work areas during construction. MM BIO-1 through MM BIO-6 would minimize adverse direct and indirect impacts to special-status wildlife species and associated native vegetation. With implementation of MMs, impacts to burro deer would be less than significant.

***Special-Status Bats*.** Six special-status bat species may forage on or near the Project site and limited roosting habitat may occur for pallid and free-tailed bat within the dry desert wash woodland habitat on the Project's LFRs and the solar facility. Other special-status bat species known from the region typically inhabit rocky sites and would not be expected to use the Project for roosting. Project construction could adversely impact special-status bats through the elimination of desert shrubland foraging habitat. Bats may collide with moving structures such as wind turbines, but rarely collide with stationary structures (WEST 2020), such as those proposed by the Project. Bat mortality could though occur if individuals became trapped in Project infrastructure. Potential indirect impacts are described in detail under Threshold "b" above. MM BIO-1 through MM BIO-6 and MM BIO-13 would minimize adverse direct and indirect impacts to special-status wildlife species and associated native vegetation and habitat and offset

the permanent loss of specified native habitat through off-site habitat compensation. MM BIO-4 (Minimization of Impacts to Wildlife) includes a condition to inspect structures prior to demolition and remove wildlife or allow wildlife to escape. MM BIO-8 (Minimization of Impacts to Birds and Bats) requires a Bird and Bat Conservation Strategy (BBCS) that would identify potential hazards to birds and bats during construction, operation, maintenance, and decommissioning. The BBCS would specify measures to recognize, minimize, and avoid these hazards; would require additional pre-construction surveys and wildlife exclusion or scheduling of tree removal outside the bat maternal roosting season; and would include documentation of bird and bat mortality during operation, maintenance, and decommissioning of the Project. MM BIO-13 (Compensation for Impacts to Native Vegetation) would minimize adverse impacts to native vegetation/habitat and offset the permanent habitat loss through off-site habitat compensation. Refer to Section 3.5.4 for the full MMs. These measures are expected to minimize potential impacts special-status bats and offset specified native habitat loss. With incorporation of relevant Mitigation Measures, impacts to special-status bats would be less than significant.

Special-Status and Migratory Birds*.* Migratory birds, including a number of special-status bird species, occur or may occur at the Project site. These species would be directly affected by the loss of foraging habitat, breeding habitat, cover, and roost sites. The Project site and surrounding area provide suitable nesting and foraging habitat for numerous resident and migratory bird species. Bird nests, including eggs and nestlings, are vulnerable to construction activities that may disrupt nesting behavior or damage nests, birds, or eggs. After completion of construction and throughout the life of the Project, the solar facilities and other components may present a collision or electrocution risk to birds. In addition to collision with solar panels, birds and bats may collide with overhead lines. Bird fatality associated with powerlines has been largely attributed to collision or electrocution; however, a recent study found that illegal shooting may constitute a substantial (66%) and underrepresented cause of death of birds along power lines on public lands in the western United States (Thomason 2023). Researchers documented cases of birds that appeared to have been killed by electrocution based on external evidence (e.g., singed feathers), but upon further examination were found to have also been killed by gunshot and electrocuted as they fell to the ground (Thomason 2023). With implementation of the MMs described below, impacts to special-status birds would be less than significant.

MM BIO-1 through MM BIO-4, MM BIO-8, MM BIO-12, and MM BIO-13 would minimize adverse direct and indirect impacts to special-status and migratory birds and associated habitat. For example, MM BIO-1 requires that a representative be appointed to coordinate with CDFW and USFWS in the event of any inadvertent special-status species mortality or injury. MM BIO-4 and MM BIO-8 would also help reduce impacts to nesting birds. MM BIO-4 specifically requires that new light sources be minimized and designed to be downcast to limit the lighted area during construction, operation, and maintenance, and includes a condition to inspect structures prior to demolition and remove wildlife or allow wildlife to escape. MM BIO-4 also requires that construction, operation, maintenance, and decommissioning activities (except panel washing) be restricted at night to avoid disturbance to special-status wildlife. MM BIO-8 would require design and construction to avoid potential for electrocution and minimize potential for roosting on the structures or colliding with them and would require raptor-safe towers and poles in accordance with Reducing Avian Collisions with Power Lines: The State of the Art in 2012 (APLIC 2012). MM BIO-8 requires a Bird and Bat Conservation Strategy that would identify potential hazards to birds during construction, operation, maintenance, and decommissioning. The plan would specify measures to recognize, minimize, and avoid these hazards; would require additional pre-construction surveys and wildlife exclusion or scheduling of vegetation removal outside the nesting bird season; and would include documentation of bird mortality during operation, maintenance, and decommissioning of the Project. Potential indirect impacts are described in detail under Threshold “b” above. Incorporation of MM BIO-8 described above would avoid and minimize indirect or direct impacts to special-status and migratory birds.

Refer to Section 3.5.4 for the full MMs. These measures are expected to minimize potential impacts to birds and offset specified native habitat loss. Incorporation of MMs would further reduce the impacts to birds to less than significant to the extent feasible. MM BIO-12 (Raven Management) would require measures to manage raven populations within the Project, as ravens prey upon other wildlife, including common prey are juvenile desert tortoise. Additionally, the Project will provide compensatory mitigation that contributes to LUPA-wide raven management.

Incorporation of MMs described above would avoid and minimize indirect or direct impacts to special-status and migratory birds. MMs would minimize and mitigate adverse direct and indirect impacts to special-status birds and associated native vegetation that may use the Project and offset the permanent loss of specified native habitat through off-site habitat compensation to fully minimize adverse impacts.

Vegetation Communities and Habitat. The Project site consists almost entirely of non-native habitat, fallow agriculture vegetation community. The Project would also include installation of three new poles for the secondary (redundant) communications path. However, they would be located in previously disturbed areas within the Desert Harvest Solar Project right-of-way.

The Project would permanently impact up to 1,049.8 acres of non-native, previously disturbed, and artificially created habitat and up to 73.2 acres of natural habitat (Table 3.5-1). The Project would permanently impact vegetation communities by removing or altering the soils and vegetation. Permanent impacts to habitats suitable for native wildlife and plants would include vegetation removal and soil disturbance. Sonoran creosote bush scrub, desert dry wash woodland, and other habitat within the Project site provides foraging, cover, and breeding habitat for wildlife, including special-status wildlife. The Project's direct effects to vegetation resources would include loss and fragmentation of habitat and native plant communities and loss of ecological functions. However, due to most of the Project being developed on fallow agriculture, there is limited suitable habitat for special-status plants and wildlife. Impacts to those native habitats combined would be less than 10% of the Project's impact acreage. Impacts to habitats are detailed below. Further, salt cedar/nonnative riparian has the potential to impact native riparian communities associated with adjacent water bodies through direct competition and alteration of soil and hydrology conditions. Removal of salt cedar during site preparation, and proper management of potential regrowth, would be a beneficial impact of the Project.

Vegetation, including the native vegetation and habitat, would be removed, or cut and retained on site. Soils throughout the solar site would be affected by some form of ground disturbance, ranging from drive-and-roll vehicle access to discing. Effects to soils and vegetation, in turn, would affect special-status plants and animals that may be present by removing nesting and foraging habitat, compacting soils, and collapsing burrows. Further, to minimize impacts to soil and the roots of plants, construction activities would implement drive and crush rather than grading. The drive-and-crush method is used to reduce the recovery time of desert shrubs within the temporary construction areas. Also, mowing and/or trimming would be implemented, when possible, to minimize soil erosion.

During construction, the Project would temporarily affect surrounding habitat by introducing noise, lighting, dust, and similar disturbances, possibly affecting wildlife behavior. The temporary impacts cannot be quantified because noise and disturbance would be intermittent, occurring at various parts of the Project areas at various times during construction, and each species or individual animal would react differently to the various disturbances. The principal indirect impact to native habitat and associated special-status species is the potential introduction of invasive weeds, which could degrade plant and wildlife habitat on the site and beyond the site boundaries if the weeds spread. Implementation of the relevant MMs would reduce the potential impacts to the minor loss of natural habitat on the Project site.

Therefore, implementation of relevant MMs would reduce the potential adverse effects to special-status wildlife and plants from the Project.

The Project would implement MMs BIO-1 through BIO-7 and MM BIO-13 to reduce impacts to special-status vegetation communities. MM BIO-1 would require monitoring and reporting to ensure compliance with all biological resource measures, including avoidance and minimization of special-status species and associated habitat impacts. MM BIO-1 requires the use of Biological Monitors during construction to ensure that crews avoid impacts to vegetation and habitat to the maximum extent and that sensitive resources are properly flagged. MM BIO-2 requires a WEAP would require training of on-site workers to require avoidance of and minimization of impacts to special-status species and their habitat. MM BIO-3 would require clear demarcation of work areas, and limitation of activities within those areas, to minimize adverse effects to special-status species and associated habitat. MM BIO-3 requires that special-status vegetation be flagged for protection and that a Revegetation Plan be prepared for temporarily impacted habitat to avoid and minimize impacts to vegetation, and that vehicles and equipment park in previously disturbed or developed areas to the maximum extent possible to avoid impacts to native vegetation. This would reduce impacts to special-status vegetation communities outside of the permanent impact areas. MM BIO-3 also requires the use of BMPs to minimize introduction and spread of invasive plant species to protect native habitat from infestation. MM BIO-5 would require an Integrated Weed Management Plan to reduce or prevent introductions or infestations of invasive weeds and control or eradicate any infestations that may occur.[5] The Project would also implement MM BIO-6 that would require revegetation of temporarily disturbed areas to minimize dust and erosion, to minimize their effects to special-status species and associated habitat. MM BIO-6 requires the implementation of a Vegetation Resources Management Plan (VRMP) to manage sensitive biological resources during operation, maintenance, and decommissioning. MM BIO-6 also requires that development of new roads be minimized and that clearing and blading of vegetation for temporary vehicle access be avoided to the maximum extent possible. MM BIO-7 requires dust suppression to minimize its effects to native vegetation and requires pre-construction biological clearance surveys to minimize impacts to special-status plants and wildlife. This would reduce impacts to special-status species that could be crushed by construction equipment.

[5] Implementation of the Integrated Weed Management Plan specified in MM BIO-4 would control invasive weeds through mechanical or chemical methods. Herbicides can pose risks to terrestrial and aquatic vegetation. Most aquatic herbicides, and several terrestrial herbicides, are non-selective and could adversely impact non-target vegetation. Accidental spills and herbicide drift from treatment areas could be particularly damaging to non-target vegetation. Herbicides may also pose risks to terrestrial or aquatic animal species. Herbicides that persist on site could adversely affect animals that feed on target plants or are exposed to the herbicides (e.g., by digging or rolling in treated soil). Accidental spills and herbicide drift from treatment areas could reach non-target vegetation or habitat on public or private lands near treatment areas. MM BIO-4 requires that the Integrated Weed Management Plan specify weed species occurring or potentially occurring in the Project area, means to prevent their introduction or spread, monitoring methods to identify infestations, timely implementation of suppression and containment measures, and a reporting schedule. In addition, MM BIO-4 requires the Integrated Weed Management Plan to identify herbicides that may be used for control or eradication and avoid herbicide use in or around any environmentally sensitive areas. Any herbicide use would need to comply with existing BLM plans and permits, including the Vegetation Treatments Using Herbicides (BLM 2007) and Vegetation Treatment Using Aminopyralid, Fluroxypyr, and Rimsulfuron (BLM 2016); would require a Pesticide Use Permit approved by BLM; and would adhere to the BLM design features from the pesticide Environmental Impact Statement.

With implementation of the MMs described above, impacts to any endangered or threatened species would be reduced to less than significant.

Threshold c: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U. S. Wildlife Service?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Potential direct and indirect Project impacts to any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS are described in Threshold "b" above. MMs are evaluated for their effectiveness in avoiding and minimizing impacts to reduce impacts to less than significant (listed in Section 3.5.4) and are identified in the discussion above under Threshold "b." Therefore, the Project would result in less-than-significant impacts with implementation of MMs.

Threshold d: Would the project 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 WITH MITIGATION INCORPORATED. Wildlife movement in the vicinity of the Project is compromised by the surrounding existing solar projects, Kaiser Road, State Route 177, and the I-10 freeway. Several wildlife connectivity models/layers have been developed within the DRECP area. The DRECP (LUPA-BIO-13) identifies four linkage areas within the plan area. The Project is located approximately 3.3 miles north from the closest multi-species linkage, which consists of a 1.5-mile-wide linkage across I-10 to connect the Chuckwalla Mountains to the Chuckwalla Valley east of Desert Center (Figure 3.5-6). The Project would not impact any DRECP multi-species linkages.

MM BIO-7 requires pre-construction biological clearance surveys to minimize impacts to special-status plants and wildlife and requires the use of Biological Monitors during construction to ensure that crews avoid impacts to habitat to the maximum extent. Wildlife "nursery sites" such as bird nests or suitable breeding habit for other species may be found throughout the Project site. MM BIO-8 would require pre-construction surveys to identify active bird nests and avoidance of disturbance or disruption of nesting behavior, as well as operation and maintenance monitoring for bird mortality and implementation of an adaptive management framework if mortality thresholds are exceeded. MM BIO-8 requires nesting bird surveys if Project activities occur between February 1 and August 31. MM BIO-2 requires a WEAP to train all construction crew on sensitive resources and measures to avoid and minimize impacts. MM BIO-3 requires that vehicles and equipment park in previously disturbed or developed areas to the maximum extent possible to avoid impacts to habitat. Implementation of MM BIO-1 through MM BIO-6 would minimize and offset direct and indirect impacts to special-status wildlife species, common wildlife species, and associated habitat, and MM BIO-7 through MM BIO-13 would prevent or offset adverse effects to special-status wildlife nesting or breeding sites by requiring specific pre-construction surveys, passive translocation of certain species away from the area, avoidance of buffer areas while bird nests are active, and other related requirements. Direct and indirect impacts to wildlife "nursery sites" would be reduced to less than significant with implementation of MMs. Therefore, the Project would result in less-than-significant impacts with implementation of MMs.

Construction activities could dissuade wildlife from approaching construction areas due to noise and disturbance. This effect would be temporary (limited to construction phase). Once completed, the LFRs would have minimal effects on terrestrial wildlife movement. However, the gen-tie towers and conductors associated with LFR A would present a collision hazard for birds, including special-status species and common birds that are protected under state and federal laws. MM BIO-9 requires nesting bird surveys if Project activities occur

between February 1 and August 31. Incorporation of MM BIO-7 would avoid and minimize indirect or direct impacts to wildlife movement. MM BIO-8 would require mechanisms to visually warn birds such as permanent markers or bird flight diverters, avoidance or minimized use of guy wires, and maintenance of sufficient distance between all conductors and grounded components to prevent electrocution. These measures would minimize impacts related to collisions and wildlife movement across the Project. Therefore, the Project would result in less-than-significant impacts with implementation of MMs.

Threshold e: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U. S. Fish and Wildlife Service?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Desert dry wash woodland was identified on the LFRs. It is a sensitive habitat type as identified in the Northern and Eastern Colorado Desert Coordinated Management Plan and DRECP and has a state rarity rank of S4. It is a riparian community characteristic of regional episodic hydrologic systems of the regional desert. No other sensitive natural communities are found on the Project site. The Project would also include installation of three new poles for the secondary (redundant) communications path. However, they would be located in previously disturbed areas within the Desert Harvest Solar Project right-of-way.

Construction of the Project would mostly avoid desert dry wash woodland through implementation of CMA LUPA-BIO-RIP WET-1, which requires avoidance of desert dry wash woodland with a 200-foot setback, except for minor incursions. Due to the linear nature of LFR A, Project design and construction would be able to minimize impacts to woodlands by avoiding the removal of trees to the maximum extent practicable. Minor incursions may result and compensation for unavoidable impacts would be implemented.

Direct and indirect impacts to desert dry wash woodland would be minimized by incorporating MMs. MM BIO-1 requires the use of Biological Monitors during construction to ensure that crews avoid impacts to vegetation and habitat to the maximum extent and that sensitive resources are properly flagged. MM BIO-2 requires a WEAP to train all construction crew on sensitive resources and measures to avoid and minimize impacts. MM BIO-3 requires the use of BMPs to minimize introduction and spread of invasive plant species to protect native habitat from infestation. MM BIO-5 requires that special-status vegetation be flagged for protection and that a VRMP be prepared for temporarily impacted habitat to avoid and minimize impacts to vegetation. This would reduce impacts to special-status vegetation communities outside of the permanent impact areas. MM BIO-3 requires that vehicles and equipment park in previously disturbed or developed areas to the maximum extent possible to avoid impacts to native vegetation, that development of new roads be minimized, and that clearing and blading of vegetation for temporary vehicle access be avoided to the maximum extent possible. MM BIO-7 requires dust suppression to minimize its effects to native vegetation.

Incorporation of the MMs described above would avoid and minimize impacts to desert dry wash woodland and other vegetation communities. Impacts to desert dry wash woodland would be minimized by MM BIO-1 through MM BIO-7. Additionally, MM BIO-10 (Stream Protection and Compensation) requires compensation for impacts to streams, and desert dry wash woodland, as a measure necessary to protect sensitive resources associated with streams. And finally, MM BIO-13 specifically provides compensation for desert dry wash woodland habitat. Together, this series of MMs would minimize adverse impacts to desert dry wash woodland and offset the permanent loss of specified native habitat through off-site habitat compensation. Therefore, the Project would result in less-than-significant impacts with implementation of MMs.

Threshold f: Would the project have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. No wetlands would be affected by the Project, and the Project site is not subject to federal regulation given the absence of a nexus to WOTUS (Section 3.5.2, Environmental Setting, Jurisdictional Waters).

Impacts to state-jurisdictional streams would require the Applicant to provide required notification to CDFW under CFGC Section 1602 and to likely obtain Lake and Streambed Agreements (LSAA) from CDFW, conditioned on reasonable measures necessary to protect fish and wildlife (see Appendix H). The Applicant would also provide required notification to the RWQCB under the Porter-Cologne Water Quality Act and likely obtain a Waste Discharge Requirement (WDR).

Potential state-jurisdictional waters within the solar site include native desert dry wash woodland habitat and unvegetated ephemeral dry wash. The unvegetated streams convey water and sediment to other stream channels and their associated vegetation and habitat (e.g., desert dry wash woodland), both on the site and off site downstream.

The Project does not include diversion channels or other substantial alterations to the existing surface hydrology that would result in a change to off-site hydrology. A detention/retention basin or basins may be required to meet current Riverside County site development requirements, depending on the change in hydrological conditions on site for stormwater management. The required storage would be provided via shallow ponding at the downstream limit of the sub-basin(s). Water and sediment would be conveyed downslope across the site by sheet flow or within channels after site preparation and construction. However, surface flow patterns, velocities, and sediment loads may be altered throughout the site by solar panel foundations, access roads, and other features. Potential impacts to the unvegetated ephemeral dry wash could include increased siltation, fluvial transport of silts or pollutants off site via the ephemeral channels or altered flows causing downstream erosion or eliminating natural transport of sands and water to downstream habitat areas. Details of impacts to desert dry wash woodland are shown in Table 3.5-2.

Several MMs are proposed to minimize impacts to jurisdictional waters. MM BIO-1 requires the use of Biological Monitors during construction to ensure that crews avoid impacts to jurisdictional waters to the maximum extent and that sensitive resources are properly flagged. MM BIO-2 requires a WEAP to train all construction crew on sensitive resources and measures to avoid and minimize impacts. MM BIO-3 requires that vehicles and equipment park in previously disturbed or developed areas to the maximum extent possible to avoid impacts to jurisdictional waters and requires that no vehicles or equipment be refueled within 100 feet of an ephemeral drainage. MM BIO-3 also requires that BMPs for soil erosion and sedimentation of streams be used. MM BIO-4 requires that chemicals and fuels be used in compliance with regulations to minimize the possibility of habitat contamination. MM BIO-10 requires a series of BMPs to prevent or minimize adverse effects to stream function and off-site habitats, which may include, but not be limited to, dewatering procedures, retention basins, swales, stormwater runoff quality control measures, concrete waste management, watering for dust control, and construction of perimeter silt fences. Additionally, MM BIO-10 requires that streams and banks be avoided to the extent feasible. If not possible to be avoided MM BIO-10 requires the Applicant to obtain a Lake and Streambed Agreement from CDFW and Waste Discharge Requirements from RWQCB or confirm with the agencies that such approvals are not required prior to initiating construction in jurisdictional waters of the state including streams; such permits would provide compensatory mitigation for impacts to desert dry wash woodland

and unvegetated ephemeral dry wash. Further, MM BIO-13 requires compensatory mitigation for impacts to desert dry wash woodland and unvegetated ephemeral dry wash.

With implementation of MMs described above, the impacts would be reduced to less than significant. Additionally, potential direct and indirect impacts would be offset by MM BIO-1 through MM BIO-7. In combination, these measures would mitigate, minimize, and prevent adverse effects to waters of the state including streams. Therefore, the Project would result in less-than-significant impacts with implementation of MMs.

Threshold g: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Riverside County policies and ordinances applicable to biological resources are identified in Section 3.5.1. These policies direct permanent preservation of important open space lands, compliance with the Multipurpose Open Space Element of the General Plan, protection of environmental resources, cooperation with resource agencies for the voluntary protection or restoration of significant habitats, and preservation of multispecies habitat resources. The Project, including its conformance with the DRECP CMAs for the LFRs and the mitigation measures identified in this EIR, are consistent with Riverside County's overall conservation objectives.

The Project would impact biological resources protected by the General Plan provisions, including special-status plants and animals, sensitive habitats, and waters of the state, as described under Threshold "a" through Threshold "d." Without mitigation, these impacts could result in significant impacts to biological resources. MM BIO-1 through MM BIO-13 would ensure consistency with local policies. Therefore, the Project would result in less-than-significant impacts with implementation of MMs.

Cumulative Impacts

Geographic Scope. Cumulative impacts to biological resources include the Project's impacts and those likely to occur because of other existing, proposed, and reasonably foreseeable projects. The geographic area for evaluation of potential impacts to biological resources includes the desert portion of Riverside County (Palm Springs to the Colorado River) because it consists of similar habitat areas and encompasses the home ranges of species such as those that would be directly or indirectly affected by the Project.

Cumulative Impacts. As discussed under Threshold "a," existing projects in the Project region have undergone environmental review and were approved by federal, State, or local agencies. During that review, the agencies reviewed the applicable policies and ensured the projects complied or required a LUPA or conditional use permit. Since a large amount of land within the geographic scope of the cumulative impacts is managed by the BLM, the BLM reviews the projects to ensure they are consistent with the applicable BLM policies, including the DRECP, which specifically identifies land including the Project site as likely suitable for solar development. On BLM-administered lands, the DRECP identifies the federal lands in and around the Project site as a DFA, where renewable energy development should be concentrated. DFAs were designated by the BLM, in coordination with the USFWS, the CEC, and CDFW. With avoidance through Project design, compliance with the DRECP for the LFRs, and mitigation measures BIO-1 through BIO-13, the Project's contribution to cumulative impacts would not be considerable. The Project's cumulative impacts to policies and ordinances would be less than significant. Therefore, the Project is not expected to result in a cumulatively considerable incremental contribution related to any relevant policies or local ordinances.

As discussed under Thresholds "b" and "c," without mitigation, the Project could affect endangered or threatened plant and wildlife species.

Special-Status Plants. The Project could affect special-status plants identified in Section 3.5.2. The past, present, and future projects would have similar or greater impacts to special-status plants, which could result in a cumulatively significant impact to regional special-status plants. The contribution of the Project would not be considerable because of avoidance of the special-status plants and MMs would reduce the impacts so that residual effects would be minimal. Special-status plants could be cumulatively affected by the Project and proposed projects in the region. The Project's impacts to special-status plants would be mitigated through measures, including MM BIO-7, which requires special-status plant species mitigation. With implementation of MMs, in combination with the lower level of conservation concern for species that are not listed as threatened, endangered, or sensitive, the Project's incremental contribution to cumulative impacts to other special-status plants would not be substantial. Accordingly, the Project's incremental contribution to the cumulative impacts to special-status plants caused by other past, present, and probable future projects would not be cumulatively considerable or significant.

Native Birds, including Special-Status Passerine Birds. Migratory birds are expected to occur throughout the area during construction, operation, and maintenance of the Project. The Project would contribute to cumulative direct and indirect impacts to migratory birds, including habitat loss and fragmentation; construction impacts to nesting birds; and an increase in noise and lighting, avian predators, and collisions and electrocutions. In combination with past, present, and foreseeable future projects, the Project could have a cumulatively substantial impact on special-status and migratory bird populations.

The Project's impacts would be mitigated to the extent feasible through pre-construction surveys, avoidance of active nests, operations and maintenance phase mortality monitoring, and mitigation applied through adaptive management, depending on monitoring results, as described in MM BIO-8. Natural habitat loss would be minimized and offset through MMs. The incremental contribution of the Project to the cumulative impacts to native bird habitat and nesting success would not be considerable because any incidental take would be minimized, and specified native habitat loss would be offset.

Regarding potential collision from the solar facilities or LFRs, MM BIO-8 would require monitoring of bird kills and implementation of adaptive management. MM BIO-8 would also require mechanisms to visually warn birds, such as permanent markers or bird flight diverters, avoidance or minimized use of guy wires; and maintenance of sufficient distance between all conductors and grounded components to prevent electrocution. With incorporation of relevant MMs, the Project's incremental contribution to the cumulative impacts to native birds, including special-status passerine birds, caused by other past, present, and probable future projects would not be cumulatively considerable or significant.

Burrowing Owl. Potential impacts of the Project to burrowing owl include habitat loss or degradation; injury or mortality if burrowing owl are present in a work area, particularly during nesting season; and mortality or injury from collision with Project facilities, as described above for native birds. Other cumulative projects in the vicinity include several transmission lines and solar energy projects with similar habitat for burrowing owl, compared to the Project. In combination with past, present, and foreseeable future projects, the Project could have a cumulatively substantial impact on burrowing owl populations and habitat. The incremental contribution of the Project to the cumulative impacts to burrowing owls, including habitat loss, construction-related mortality, or collision mortality, would not be considerable with implementation of various MMs and other measures; native habitat loss would be offset, no take of individuals is expected during construction, and the prospect of potential collision as described above for native birds is insubstantial. Accordingly, the Project's incremental contribution to the cumulative impacts to burrowing owl caused by other past, present, and probable future projects would not be cumulatively considerable or significant.

Special-Status Raptors. No special-status raptors (except burrowing owl, discussed above) are expected to nest on the Project site. However, the site provides suitable seasonal or year-round foraging habitat for several raptor species. Several raptors are likely to forage infrequently on the solar sites at any time of year, including winter and migration seasons. Effects of the other projects in the vicinity would be similar to potential effects of the Project. In combination with projects in the region, the Project could have a cumulatively substantial impact on raptor habitat. However, the incremental contribution of the Project to the cumulative impacts to special-status raptors, including habitat and collision mortality, would not be considerable because the Project site generally provides low quality habitat, the loss of specified native habitat would be offset by protecting compensation lands off site, and the prospect of potential collision is insubstantial as described above for native birds. Accordingly, the Project's incremental contribution to the cumulative impacts to special-status raptors caused by other past, present, and probable future projects would not be cumulatively considerable or significant.

Desert kit fox and American badger. Desert kit fox occurs and American badger has a high likelihood of occurrence on the Project site. Both species could use native habitats wherever prey animals may be present. Thus, in combination with projects in the region, the Project could have a cumulatively substantial impact on desert kit fox and American badger. MMs would offset specified native habitat loss for both species, prevent or minimize wildlife injury and mortality, and require pre-construction surveys to exclude both species from work sites. The incremental contribution of the Project to the cumulative impacts to these species would not be considerable because any incidental take would be minimized and native habitat loss would be offset. Accordingly, the Project's incremental contribution to the cumulative impacts to desert kit fox and American badger caused by other past, present, and probable future projects would not be cumulatively considerable or significant.

Burro Deer. Burro deer are expected to occur on the Project and loss of the habitat and access to water sources could contribute to a significant cumulative impact. The principal potential cumulative impacts to burro deer would be reduced access to dependable irrigation water at agricultural sites. Access to water sources may be interrupted by the Project; however, burro deer have been observed to continue to use the greater Desert Center area during the ongoing solar development and are expected to avoid Project-related disturbance during construction. However, in combination with projects in the region, the Project could have a cumulatively substantial impact on burro deer. MMs would offset specified native habitat loss and impacts to wildlife movement habitat. The incremental contribution of the Project to the cumulative impacts to burro deer would not be considerable because no take would occur and the Project does not include loss of movement habitat. Accordingly, the Project's incremental contribution to the cumulative impacts to burro deer caused by other past, present, and probable future projects would not be cumulatively considerable or significant.

Special-Status Bats. Construction of the Project could adversely impact special-status bats through the elimination of desert shrubland foraging habitat or the unlikely loss of roost sites in desert dry wash woodland habitat along the LFRs. Removal of those features could disturb, injure, or kill bats. MMs would minimize and offset specified native habitat loss, require inspection of structures prior to activities, allow wildlife to escape prior to demolition, and require pre-construction surveys or scheduling of tree removal outside the bat maternal roosting season. These measures are expected to avoid or substantially lessen potentially significant impacts to special-status bats and offset habitat loss. Cumulative projects would also eliminate desert shrubland foraging habitat and result in the loss of roost sites, a significant cumulative impact to special-status bats. In combination with past, present, and foreseeable future projects in the region, the Project could have a cumulatively substantial impact on special-status bat populations. However, these projects would implement measures similar to those identified for the Project, including offset of native habitats, avoidance of active roosts, and BBCSs. The incremental

contribution of the Project to the cumulative impacts to special-status bats caused by other projects, including habitat loss and collision mortality, would not be considerable because the prospect of potential collision is insubstantial as described above. Accordingly, the Project's incremental contribution to the cumulative impacts to special-status bats would not be cumulatively considerable or significant.

As discussed under Threshold "d," without mitigation, the Project could interfere substantially with the movement of 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. Combined with the impacts of other past, present, and reasonably foreseeable future projects, these effects could be cumulatively significant. Cumulative impacts analysis for wildlife movement takes into account projects within 5 miles that could impact the multispecies linkage area identified in the DRECP, which links the Palen–McCoy Mountains to the northeast and the Chocolate Mountains to the southwest. These projects include existing and future solar projects around the Project such as the existing and operational Desert Sunlight and Desert Harvest solar projects located north of the Project site; the existing and operational Athos Solar Project located south of the Project site and the existing and operational Oberon Solar Project located farther south of the Project site, which also have the potential to influence wildlife movement. However, probable future projects on BLM-administered lands would be permitted under the DRECP and would be required to comply with the CMAs regarding avoidance of desert dry wash woodland and to ensure the linkage area retains its function as a wildlife corridor, and projects on private lands would be permitted by the County and subject to mitigation measures similar to the Project's. Therefore, cumulative impacts to wildlife movement would be less than significant. Accordingly, the Project's incremental contribution to any cumulative impacts to wildlife movement caused by other past, present, and probable future projects would not be cumulatively considerable or significant.

As discussed under Threshold "e," without mitigation the Project could have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by CDFW or USFWS; this is analyzed further below.

Vegetation and Habitat. Construction-related impacts of the Project would temporarily increase noise and activities, dust, and other habitat disturbances throughout the region. On completion of construction, longer-term land use conversion would contribute to reduced habitat availability and increased habitat fragmentation. In the context of the number of past, present, and future projects, many of which are large solar projects, the effects of the Project would incrementally contribute to the cumulative loss of vegetation and habitat. The minimal loss of natural habitats that would result from the Project would be offset by protecting compensation lands off site and by the areas conserved under the DRECP. Under the DRECP, Areas of Critical Environmental Concern and California Desert National Conservation Lands were protected as part of the overall goal of the DRECP to "advance federal and state natural resource conservation goals" (BLM 2015). The Project would compensate for impacts to Sonoran creosote desert bush scrub, a widespread and common habitat type, and desert dry wash woodland, a sensitive vegetation community. MM BIO-13 requires compensation of habitat. With implementation of MMs, the cumulative contribution to impacts to vegetation and habitat from the Project would not be substantial. Accordingly, the Project's incremental contribution to the cumulative vegetation and habitat impacts caused by other past, present, and probable future projects would not be cumulatively considerable or significant.

Sensitive Habitat and Jurisdictional Waters of the State. The Project would minimally affect desert dry wash woodland. It would also minimally affect unvegetated ephemeral dry wash, which meets criteria as jurisdictional waters of the state. Many of the prospective projects in the Project region would have qualitatively similar impacts to desert dry wash woodland and unvegetated ephemeral dry wash due to the nature of the area and the large washes that cross it. Therefore, the Project's impacts to sensitive

habitats, combined with the effects of past, present, and reasonably foreseeable prospective projects, could result in a cumulatively significant impact to sensitive habitat. The effects of the Project would contribute incrementally to the cumulative impacts to sensitive habitat and jurisdictional waters of the state, but this incremental contribution would not be considerable because the Project has been designed to avoid sensitive habitat or avoid the desert dry wash woodland except for minor incursions because of the DRECP CMAs and because MMs would reduce the impacts so that residual effects would be minimal. MM BIO-13 requires compensatory mitigation for impacts to native vegetation communities and streams, and requires obtaining permits from CDFW and RWQCB prior to ground-disturbing activities in jurisdictional waters of the state, including streams. Accordingly, the Project's incremental contribution to the cumulative impacts caused by other past, present, and probable future projects would not be cumulatively considerable or significant.

3.5.4 Mitigation Measures

The following Mitigation Measures were developed to substantially lessen the significant effects to biological resources expected to result from the construction, operation, maintenance, and decommissioning of the Project.

MM BIO-1 **Biological Monitoring.** The Applicant shall assign at least one Designated Biologist as the primary point of contact for the lead agencies (BLM and County of Riverside) and permitting agencies (e.g., California Department of Fish and Wildlife, United States Fish and Wildlife Service, and Regional Water Quality Control Board, as applicable) regarding biological resource compliance. The Designated Biologist shall have demonstrated expertise with the biological resources within the Project area, as well as hold a Memorandum of Understanding (MOU) with the County of Riverside. The Designated Biologist duties will vary during the construction, operation, maintenance, and future decommissioning of the Project. Additional Biological Monitor(s), trained and supervised by the Designated Biologist, may be necessary to fulfill compliance with Mitigation Measures and permit conditions. In general, the duties of the Designated Biologist shall include:

- Communication with representatives of lead and permitting agencies, as appropriate.
- Conduct or oversee Worker Environmental Awareness Program.
- Conduct or oversee pre-construction surveys, inspection, and monitoring duties as defined in all Mitigation Measures.
- Halt any activities in any area if it is determined that the activity, if continued, would cause an unauthorized adverse impact to biological resources.
- Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions.
- During construction, prepare and submit monthly compliance reports. During operations, prepare and submit annual compliance reports for the first three (3) years of operations.

MM BIO-2 **Worker Environmental Awareness Program (WEAP).** The Applicant shall conduct an education program for all persons employed or otherwise working in the Project area before performing any work on the Project site. The program shall consist of a presentation from the Designated Biologist or Biological Monitor(s) that includes a discussion of the biology and general behavior of special-status species, information

about the distribution and habitat, sensitivity of the special-status species to human activities, its legal protection, recovery efforts, penalties for violations. All construction crews and contractors shall be required to participate in WEAP training prior to starting work on the Project. Applicant shall prepare and distribute a fact sheet handout containing this information for workers. WEAP training materials shall be provided in English and Spanish. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures. At a minimum, the WEAP shall:

- Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation with supporting written material and electronic media, including photographs of protected species, available to all participants.
- Include a review of Mitigation Measure and permit requirements.
- Include a review of the special-status species and other sensitive resources that may occur in the Project area, as well as the locations of the sensitive biological resources, their legal status and protections, and measures to be implemented for avoidance of these sensitive resources.
- Include desert tortoise specific training that includes detailed description of the desert tortoise, distribution and general behavior of the desert tortoise, sensitivity to human activities, regulatory status including prohibitions and penalties incurred for violation, mandatory conservation measures, and procedures if a desert tortoise is observed on-site.
- Provide an explanation of the function of flagging that designates authorized work areas and specify the prohibition of construction activities.
- Discuss general environmental and safety protocols such as vehicle speed limits, hazardous substance spill prevention and containment measures, and fire prevention and protection measures.
- Discuss the federal, state, and local regulatory setting (e.g., Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act) and the consequences of non-compliance.
- Describe workers' responsibilities for avoiding the introduction of invasive weeds onto the Project site and surrounding areas.
- Provide contact information for the Designated Biologist and instructions for notification of any vehicle-wildlife collisions or dead or injured wildlife species encountered during Project-related activities.
- Include a training acknowledgment form to be signed by each worker indicating that they received training and shall abide by the guidelines. A record of all personnel trained shall be maintained throughout the construction period. Along with their signature, each worker shall receive a sticker for their hard hat indicating they received the training.

MM BIO-3 **Minimization of Impacts to Native Vegetation**. The Applicant shall undertake the following measures during construction and decommissioning to avoid or minimize impacts to natural, or native, vegetation:

- Prior to ground-disturbing activities, work areas (including, but not limited to, staging areas, access roads, and sites for temporary placement of construction materials and spoils) shall be delineated with construction fencing (e.g., the common orange vinyl material) or staking to clearly identify the limits of work. No paint or permanent discoloring agents shall be applied to rocks or vegetation (to indicate surveyor construction activity limits or for any other purpose). Fencing/staking shall remain in place for the duration of construction.
- All disturbances, access roads, staging areas, vehicles, and equipment shall be confined to the fenced/flagged authorized work areas.
- To the greatest extent practicable, construction activities shall minimize disturbance to soil and native vegetation.
- Use best management practices where applicable for prevention and control of soil erosion and to minimize the introduction and spread of invasive plant species.
- Hazardous materials including motor oil, fuel, antifreeze, hydraulic fluid, and grease shall be contained, and spills or leaks shall be promptly corrected and cleaned up according to applicable regulations.
- Vehicles and equipment shall be properly maintained to prevent spills or leaks and refueling shall not be conducted outside the authorized work areas or within 100 feet of any sensitive resource (e.g., wetland).
- Upon completion of construction activities, all unused materials, equipment, staking and flagging, and refuse shall be removed and properly disposed of, including but not limited to wrapping material, cables, cords, wire, boxes, rope, broken equipment parts, twine, strapping, buckets, and metal or plastic containers.

MM BIO-4 **Minimization of Impacts to Wildlife.** The Applicant shall undertake the following measures during construction and decommissioning to avoid or minimize impacts to wildlife:

- *Wildlife avoidance*. Wherever feasible, Project activities shall avoid interference with wildlife (including ground-dwelling species, birds, and bats) by allowing animals to escape from a work site prior to disturbance.
- *Sensitive biological resources*. Sensitive biological resource areas near all work activities shall be clearly communicated and/or marked (e.g., flagged) in the field. Avoidance buffers shall be established and maintained by the Designated Biologist.
- *Minimize traffic impacts*. The Applicant shall specify and enforce maximum vehicle speed limits to minimize risk of wildlife collisions and fugitive dust. Vehicles shall not exceed a speed limit of 15 mph on unpaved roads in open habitat where wildlife may be affected. Dust suppression shall occur during all construction activities as needed.
- *Minimize lighting impacts*. Night lighting, when in use, shall be designed, installed, and maintained to prevent side casting of light toward surrounding wildlife habitat. New light sources shall be minimized, and lighting shall be designed (e.g., using downcast lights) to limit the lighted area to the minimum necessary.
- *Avoid use of toxic substances*. Use of chemicals, fuels, lubricants, or biocides shall comply with all local, state, and federal regulations to minimize the possibility of contamination of habitat or primary or secondary poisoning of predators utilizing

adjacent habitats. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation. Soil bonding and weighting agents used for dust suppression on unpaved surfaces shall be nontoxic to wildlife and plants.

- *Minimize noise and vibration impacts*. The Applicant shall conform to noise requirements specified in the noise analysis of the Environmental Impact Report to minimize noise to off-site habitat.
- *Water*. Potable and non-potable water sources such as tanks, ponds, and pipes shall be covered or otherwise secured to prevent animals (including birds) from entering. Prevention methods may include storing water within closed tanks. Water sources (e.g., hydrants, tanks, etc.) shall be checked periodically by Biological Monitors to ensure they do not create longstanding ponded areas.
- *Food and Trash*. No deliberate feeding of wildlife shall be allowed. Further, to avoid indeliberate feeding of wildlife, all food-related trash items, including wrappers, cans, bottles, and food scraps shall always be contained and properly disposed of in self-closing, sealable containers, with lids that latch to prevent wind and wildlife (e.g., ravens and coyotes) from opening the containers. All trash receptacles shall be regularly inspected, emptied, and removed from the Project area at a minimum once a week to prevent spillage and maintain sanitary conditions.
- *Firearms and Dogs*. All personnel and any other individuals associated with the Project shall be prohibited from bringing any firearms on the Project site, except those in the possession of authorized security personnel or local, state, or federal law enforcement officials. No pets shall be permitted on the Project site except dogs that may be used to aid in official and approved monitoring procedures/protocols or service dogs under Title II and Title III of the American with Disabilities Act.
- *Wildlife entrapment*. All pipes, culverts, or similar structures with a diameter greater than 3 inches and less than 8 inches aboveground shall be inspected by the Designated Biologist or Biological Monitor(s) before the material is moved, buried, or capped. The Designated Biologist or Biological Monitor(s) shall inspect all open holes and trenches a minimum of once a day and just prior to backfilling. If open holes or trenches remain overnight, an escape ramp shall be created every 100 feet to allow wildlife to exit. The ramp may be constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees. If any worker discovers an animal has become trapped, they shall halt activities and notify the Designated Biologist or Biological Monitor immediately.
- *Dead or injured wildlife*. Dead or injured special status wildlife species shall be reported to the lead agencies and permitting agencies, as applicable, within 48 hours of detection. The Designated Biologist or Biological Monitor shall complete a Wildlife Incident Form and safely move the carcasses out of the road or work area and dispose of the animal. If an animal is entrapped, the Designated Biologist or Biological Monitor shall free the animal if possible, or work with construction crews to free it, in compliance with safety requirements, or work with applicable agencies to resolve the situation. Injured wildlife will be transported to an approved wildlife rehabilitation center.

- *Pest control*. No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), may be used within the Project site or in support of any other Project activities. If rodent control must be conducted, the use should be restricted to interiors of buildings and zinc phosphide should be used because of the lower risk of poisoning burrowing mammals.
- *California Natural Diversity Database*. All observations of special status species, alive or dead, shall be recorded and reported to the California Natural Diversity Database.

MM BIO-5 **Integrated Weed Management Plan.** The Applicant shall prepare and implement an Integrated Weed Management Plan to minimize or prevent noxious, nonnative and invasive weeds from infesting the site or spreading into surrounding habitat. For Project components on BLM administered lands (i.e., Linear Facility Routes), the Integrated Weed Management Plan must comply with BLM guidelines. The Integrated Weed Management Plan will be approved by the BLM for implementation on BLM administered lands. If required, the Integrated Weed Management Plan will also be approved by the County for implementation on private lands. The Integrated Weed Management Plan shall identify weed species occurring or potentially occurring in the Project area, means to prevent their introduction or spread (e.g., vehicle cleaning and inspections), monitoring methods to identify infestations, and timely implementation of manual or chemical (as appropriate) suppression and containment measures to control or eradicate invasive weeds. All construction vehicles (e.g., trucks, trailers, machinery) will be washed (either by water or pressurized air) off-site before entering the Project area to limit the spread of weeds. All wattles or bales will be certified weed-free and will be removed at the completion of activities. The Integrated Weed Management Plan shall identify herbicides that may be used for control or eradication and avoid herbicide use in or around any environmentally sensitive areas. The Integrated Weed Management Plan shall also include a reporting schedule to be implemented by the Designated Biologist.

MM BIO-6 **Vegetation Resources Management.** The Applicant shall undertake the following measures during construction to minimize impacts to vegetation resources:

- The Applicant shall assign a Vegetation Specialist to oversee and implement salvage and transplantation of plant species protected pursuant to BLM policy (conformance with DRECP Conservation and Management Action LUPA-BIO-7) and the California Desert Native Plants Act, as applicable, and implement revegetation of temporarily disturbed areas. On the private lands under the jurisdiction of the County of Riverside, the Applicant shall obtain a permit from the County of Riverside pursuant to the California Desert Native Plants Act for the purposes of salvage or removal of protected species during construction if required.
- Revegetation of temporarily disturbed areas shall occur within BLM administered lands (i.e., Linear Facility Routes) and will not be implemented on private lands within the Project area (i.e., Solar Site). The nature of revegetation will differ according to each site, its pre-disturbance condition, and the nature of the construction disturbance (e.g., drive and crush versus blading). Revegetation techniques may include soil contouring, replanting of succulents, placing of vertical mulch as crushed, horizontal, or vertical mulch to reduce sun and wind exposure to the soil surface and facilitate plant germination. Areas may also be watered based on the guidance of the Vegetation Specialist.

MM BIO-7 **Special-Status Plant Species Mitigation.** To reduce potentially significant impacts to special status plant species, the Applicant shall implement one or a combination of the following strategies:

- *Pre- and post-construction surveys*. Potential habitat for special status plant species shall be surveyed during the appropriate season prior to site preparation disturbance; any special status plant species populations or occurrences or suitable habitat would be mapped. Areas that supported special status plant populations or occurrences will be resurveyed during the appropriate season (e.g., spring or summer) for up to two years following the completion of construction to determine natural reestablishment.
- *Off-site compensation*. The Applicant shall provide compensation lands consisting of suitable habitat at a 1:1 ratio for occupied habitat affected by the Project. Occupied habitat acreage shall be calculated on the Project site based on including each special-status plant occurrence and a surrounding 100-foot buffer area. Off-site compensation lands would be considered suitable if in proximity to historical occurrence and suitable habitat is present. Off-site compensation lands shall be located within 5 miles of a historical occurrence and include creosote bush scrub.
- *Seed collection and propagation*. Mitigation shall include seed collection from the affected plant population on the site prior to construction to conserve the germplasm and provide a seed source for restoration efforts. Seed shall be collected under the supervision or guidance of a reputable seed storage facility such as the California Botanical Garden. The costs associated with the long-term storage, seed bulking, and propagation of the seed shall be the responsibility of the Applicant for up to five (5) years. Seed and/or germinated plants can be used for restoration within the Project site, off-site mitigation lands, or other conservation lands as approved by the County of Riverside and applicable permitting agencies.

MM BIO-8 **Minimization of Impacts to Birds and Bats.** The Applicant shall undertake the following measures avoid or minimize impacts to birds and bats.

- *Bird and Bat Conservation Strategy*. The Applicant shall prepare a Bird and Bat Conservation Strategy (BBCS) for review and approval by the applicable lead and permitting agencies. The BBCS shall include baseline data on the distribution of bird and bat species within the Project area, risk assessment, measures to avoid and minimize adverse impacts, description of relevant monitoring and reporting, and framework for adaptive management. The BBCS shall include design requirements consistent with the Avian Power Line Interaction Committee (APLIC) guidelines.
- *Nesting Bird Protection*. If vegetation removal or ground disturbance occurs during the nesting season (February 1 to August 31), pre-construction surveys for active nests shall be conducted by qualified biologists at the direction of the Designated Biologist. Nest surveys shall be completed no more than 7 days prior to initiation of vegetation removal or ground disturbance and shall be repeated every two weeks in areas of ongoing construction activity. If an active nest is found, an exclusion buffer shall be established and marked in the field by the Designated Biologist. The Project shall maintain a buffer adequate to avoid otherwise prohibited take, possession, or destruction of any bird, nest, or egg. Nesting bird management shall be described further in a Nesting Bird Management Plan or incorporated in the BBCS and submitted to the applicable lead and permitting agencies for review and approval.

- *Burrowing Owl Protection*. The Applicant shall prepare and implement a plan to avoid, minimize, and mitigate potential impacts to burrowing owl. The plan shall include pre-construction surveys, protection, and passive relocation consistent with guidelines in the Staff Report on Burrowing Owl Mitigation (CDFG 2012). Burrowing owl protection shall be described further in a Burrowing Owl Avoidance and Relocation Plan or incorporated in the BBCS and submitted to the applicable lead and permitting agencies for review and approval.

MM BIO-9 **Desert Kit Fox and American Badger Relocation.** The Applicant shall implement the following measures to protect desert kit fox and American badger:

- Biological monitors shall perform pre-construction surveys for kit fox/badger dens in the Project disturbance area and a 100-foot (30-meter) buffer beyond the Project disturbance area, with landowner permission to access, within 30 days of initiation of construction activities.
- All potential desert kit fox/badger dens identified during pre-construction surveys shall be monitored for a minimum of three consecutive nights (between August 1 and January 14) or five consecutive nights (between January 15 and July 31) to determine occupancy status. Occupancy monitoring shall be performed using a tracking medium (such as diatomaceous earth or fire clay) and/or infrared camera stations at the entrance(s). Each den shall be classified as inactive or active following the evaluation period.
- If no tracks are observed in the tracking medium or no photos of the target species are captured after the monitoring period, the den shall be classified as inactive. Inactive dens in the direct path of disturbance may be excavated by hand and backfilled to reduce the likelihood of reuse by badgers or kit fox. Dens not directly impacted by construction shall not be excavated.
- If an active den is found outside the natal season (between August 1 and January 14), the den may be subject to passive relocation. Prior to any relocation of desert kit fox and American badger, the California Department of Fish and Wildlife (CDFW) must be notified of the active den and methods proposed for relocation. Relocation may occur by progressively blocking the den with natural materials (e.g., rocks, dirt, sticks, or vegetation) or artificial, non-injurious materials placed in front of the entrance for a minimum of five consecutive nights to discourage continued use. Additional deterrents such as natural mixtures of aromatic organics (e.g., onions, garlic, and essential oils), transistor radios, and ultrasonic emitters may be used. The use of one-way doors may be used. Installation of one-way doors shall take place in the afternoon while desert kit fox/badgers are inactive and deep within the den complex. After verification that passive relocation has been successful and the den has been unoccupied for a total of five consecutive nights, the den may be fully excavated.
- If an active den is found during the natal season (January 15 and July 31), a 500-foot (150-meter) no-disturbance buffer shall be established. All active dens found during the natal season shall be presumed natal and shall not be subject to passive relocation activities unless approval is obtained from the CDFW.
- Buffers may be reduced, expanded, or temporarily modified to allow certain low-impact activities (e.g., vehicle access) to occur as determined feasible by the Designated Biologist without adversely affecting the den. All modifications to the size

of exclusion buffers or allowance of certain Project activities within the exclusion buffer shall be documented by the Designated Biologist.

- Current guidelines from CDFW regarding minimizing transmission of canine distemper virus shall be followed.

MM BIO-10 **Stream Protection and Compensation.** Prior to ground-disturbing activities in waters potentially regulated by the state, the Applicant shall confer with the California Department of Fish and Wildlife (CDFW) and the Regional Water Quality Control Board (RWQCB) and, if required, obtain appropriate authorization. The Applicant shall implement all conditions associated with regulatory agency agreements and authorizations including compensatory mitigation and, unless otherwise specified by CDFW and/or the RWQCB, shall implement the best management practices identified below to minimize adverse impacts to streams and watersheds:

- Construction crews shall minimize disturbance to wetlands, streambeds, and banks of any state-jurisdictional waters to the extent feasible.
- Vehicles and equipment shall not be operated in standing or flowing water.
- The Applicant shall prevent water containing mud, silt, or other pollutants from grading or other activities from entering ephemeral drainages or being placed in locations that may be subjected to high storm flows.
- Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources resulting from Project-related activities shall be prevented from entering ephemeral drainages.
- No petroleum products or other pollutants from the equipment shall be allowed to enter any state-jurisdictional waters.
- No broken concrete, debris, soil, silt, sand, bark, slash, sawdust, rubbish, or other organic or earthen material from any construction or associated activity shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into off-site state-jurisdictional waters.
- Stationary equipment such as motors, pumps, generators, and welders shall be positioned over drip pans. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak. Cleanup equipment such as brooms, absorbent pads, and skimmers shall always be on site. The cleanup of all spills shall begin immediately.
- All excess materials or debris shall be removed from the work area after completion of construction.
- Project impacts to desert dry wash woodland and unvegetated ephemeral dry wash shall be mitigated by providing compensatory mitigation consistent with MM BIO-13.

MM BIO-11 **Desert Tortoise Protection.** No desert tortoise may be handled or relocated without authorization from the California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS). The Applicant shall employ qualified desert tortoise biologist(s) for purposes of implementing desert tortoise protection measures identified below. The Designated Biologist noted in MM BIO-1 may also serve as qualified

desert tortoise biologist if they meet the following qualifications. The desert tortoise biologist(s) qualifications shall be subject to review and approval by the applicable lead and permitting agencies. Qualifications shall include prior approval by CDFW and USFWS as an Authorized Desert Tortoise Biologist and/or at least two years of experience on trend plots or transect surveys, conducting surveys for desert tortoise, or other research or field work on desert tortoise. Attendance at a training course endorsed by CDFW and USFWS (e.g., Desert Tortoise Council tortoise training workshop) is required.

The qualified desert tortoise biologist(s) shall be responsible for overseeing compliance with desert tortoise protective measures, conducting pre-construction surveys for all work areas, monitoring for evidence of tortoises in construction areas, checking under vehicles and equipment, inspecting excavations and other potential entrapments, and ensuring worker compliance with all desert tortoise protection measures. Any incident that is considered by the qualified desert tortoise biologist(s) to be in noncompliance with desert tortoise protective measures shall be documented.

The qualified desert tortoise biologist(s) shall have the authority to halt any Project activity that is in violation of desert tortoise protective measures or that may result in take of a desert tortoise. The following incidents shall require immediate cessation of any Project activities: (1) location of a desert tortoise within 100 feet (30 m) of an active work area; (2) imminent threat of injury or death to a desert tortoise; (3) unauthorized handling of a desert tortoise, regardless of intent; and (4) operation of construction equipment or vehicles outside authorized work areas. Work activities may resume once the DB or qualified desert tortoise biologist(s) determines there is no threat to the desert tortoise and/or the tortoise has walked more than 100 feet (30 m) away from the work area. The Applicant shall be responsible for implementing the following requirements, under direction by the qualified desert tortoise biologist(s) where appropriate.

- Worker Training. The Worker Environmental Awareness Program described in MM BIO-2 shall incorporate desert tortoise specific training.
- Exclusion Fencing. Prior to construction of the Solar Site, it shall be fully enclosed by temporary, or permanent desert tortoise exclusion fencing. All exclusion fencing shall adhere to USFWS design guidelines. To the extent feasible and permissible by County flood control design guidelines, permanent exclusion fence shall be integrated with the site security fence for maximum durability. The Applicant may choose to install temporary desert tortoise exclusion fencing along the Linear Facility Routes, within the approved right-of-way, to be removed after completion of construction. The qualified desert tortoise biologist(s) shall monitor the installation of all fence. Once installed, exclusion fencing shall be inspected at least monthly until construction completion and following all rain events, and corrective action taken if fence maintenance is needed. Exclusion fencing shall incorporate the installation of tortoise guards, or cattle guards, and/or gates at each road entry point. Gates shall always remain closed, 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 if a qualified desert tortoise biologist is present to monitor potential tortoise activity.
- Pre-construction Survey. Pre-construction surveys shall be performed prior to ground disturbance to ensure no desert tortoises are present within the direct disturbance area. Pre-construction surveys shall be conducted in unfenced Project areas no more

than 7 days prior to ground disturbance. Clearance surveys shall also be conducted after the Solar Site has been fully enclosed by temporary, or permanent desert tortoise exclusion fencing.

- Avoidance. Any potentially occupied burrows shall be avoided until monitoring or field observations (e.g., with a motion-activated camera or fiber-optic mounted video camera) determines absence. If a live tortoise or an occupied tortoise burrow is identified in the work area, all Projects activities that may result in take shall cease. The tortoise shall be allowed to leave on its own accord without handling or harassment.
- Unfenced Work Areas. If a tortoise is observed on or near the road accessing a work area, vehicles shall stop to allow the tortoise to move off the road on its own. The ground beneath vehicles parked outside of cleared areas within desert tortoise exclusion fencing shall be inspected immediately prior to the vehicle being moved. If a tortoise is found beneath a vehicle, the vehicle shall not be moved until the desert tortoise leaves of its own accord. Any work conducted in an area that is not fully enclosed by exclusion fencing must be monitored by a qualified desert tortoise biologist who shall stop work if a tortoise enters the work area. Work activities shall only proceed when the tortoise has moved away of its own accord and there is no threat of injury or death. Work sites with potential hazards to desert tortoise (e.g., auger holes, steep-sided depressions) shall be enclosed by temporary exclusion fence and not left open overnight.
- Dead or Injured Tortoises. If a dead or injured desert tortoise is found within the Project area, the Applicant or Designated Biologist shall notify by phone and email USFWS, CDFW, and lead agencies within 24 hours of detection. 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, possible cause of death or injury, if known, and other pertinent information.

MM BIO-12 **Raven Management.** The Applicant shall provide funding to the Renewable Energy Action Team (REAT) Account held by the National Fish and Wildlife Foundation (NFWF) to support the USFWS Regional Raven Management Program. The one-time fee shall be $105 per acre of direct impacts, which is expected to total $117,915 for direct impacts to 1,123 acres. The actual fee would be determined based upon final calculation of impacted acreage. The Applicant shall also implement the following requirements, under direction by the Designated Biologist where appropriate:

- The Worker Environmental Awareness Program described in MM BIO-2 shall incorporate discussion of ravens and responsibilities to control subsidies.
- Reduce raven food sources by managing waste. Trash and food items shall always be contained in closed containers.
- Reduce raven food sources by managing surface disturbance and dead wildlife. The Designated Biologist or Biological Monitor(s) shall to the extent authorized relocate wildlife from harm's way during ground-disturbing activities to minimize incidental kill to the extent feasible. Vehicle traffic speeds shall adhere to posted limits and not exceed 15 mph on all unpaved roads. If dead wildlife remains and roadkill are found, they shall be collected and disposed of (e.g., buried, when possible).

- Reduce water availability. Do not use excess water for fugitive dust control and correct standing water issues promptly. Water tanks shall be maintained in proper operating condition. Designated Biologist and Biological Monitors will monitor raven activity during construction. All raven sightings/encounters shall be documented in daily logs.
- The Designated Biologist shall notify the BLM, CDFW, and USFWS of any active raven nests encountered within the Project area. Nests within 100 feet of active work areas will be monitored weekly to identify any evidence of predation on desert tortoises and results will be reported to the BLM, CDFW, and USFWS accordingly.

MM BIO-13 **Compensation for Impacts to Native Vegetation.** Table 1 provides an estimate of compensation acreages; however, final compensation shall be based upon final calculation of impacted acreage.

Table 1: Estimated Impacts to Native Vegetation and Habitat Compensation (Acres).

Natural Vegetation Community[1]	Estimated Total Disturbance (ac)	Compensation Ratio	Compensation Acres (ac)
LFRs (BLM Land)	—	—	—
Sonoran creosote bush scrub[3]	32.5	1:1	32.5
Ephemeral dry wash	2.6	1:1	2.6
Desert dry wash woodland	1.1	5:1	5.5
Solar Site (Private Land)			
Disturbed Sonoran creosote bush scrub	0.4	0.5:1	0.2
Disturbed ephemeral dry wash	31.6	0.5:1	15.8
Disturbed desert dry wash woodland	6.7	1.5:1	10.1

1 Nonnative vegetation types have been excluded (i.e., non-native riparian, fallow agriculture, and developed/disturbed)
2 Actual disturbance acreage within LFRs will be less; entire ROW will not be disturbed.
3 No impacts to desert tortoise critical habitat or desert pavement.

- Summary of Compensatory Mitigation:
  - Total compensation acreage: 66.7 ac
    - Sonoran creosote bush scrub: 32.7 ac
    - Unvegetated ephemeral wash: 18.4 ac
    - Desert dry wash woodland acreage: 15.6 ac
- Linear Facility Routes (BLM-Administered Lands). Habitat compensation ratios on BLM-administered lands shall be subject to the DRECP and be consistent with Table 18 of the DRECP LUPA, including the 5:1 ratio for desert dry wash woodland. The acreages and ratios shall be based upon final calculation of impacted acreage.
- Solar Site (Private Lands). Habitat compensation ratios for disturbance on private lands are not subject to the DRECP. No compensation would be required for impacts to anthropogenic land use or fallow agriculture. The compensation acreage shall be based upon final calculation of impacted acreage. Compensation shall be provided for

impacts to the following resources, at the specified ratios (acres acquired and preserved to acres impacted):

- Disturbed Desert dry wash woodland: 1.5:1
- Disturbed Ephemeral Wash: 0.5:1

- The Applicant shall provide funding or bonding for the acquisition and conservation of compensation lands. Conservation instruments, associated documentation, and/or securities shall be submitted to the applicable agencies for review and approval, prior to initiating ground disturbance, pursuant to the requirements of permits and authorizations issued by lead, responsible, and permitting agencies.

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Figure 3.5-1 Vegetation Communities and Land Cover Types

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Figure 3.5-2 Aquatic Resources (Figure 6-1 from the Jurisdictional Aquatic Resources Report)

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Figure 3.5-3 Special-Status Plants (Figure 5-1 from BRTR)

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Figure 3.5-4 Western Burrowing Owl (Figure 4-4 from BRTR)

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Figure 3.5-5 Desert Kit Fox (Figure 4-5 from BRTR)

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Figure 3.5-6 Wildlife Connectivity (Figure 4-6 from BRTR)

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3.6 Cultural Resources

This section includes an analysis of the impacts to cultural resources that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning the proposed project (Project). The analysis in this section describes the associated regulations, provides information on existing cultural resources in and surrounding the Project area, identifies the criteria used for determining the significance of environmental impacts, describes the Project's potential impacts related to cultural resources, and lists Mitigation Measures (MMs) that would be incorporated into the Project to avoid and or substantially lessen to the extent feasible potentially significant impacts.

Cultural resources can reflect the history, diversity, and culture of a region, as well as the people who created the resources. Cultural resources are often the only remaining evidence of human activity that occurred in the past. Cultural resources can be natural or built, purposeful or accidental, or physical or intangible. They encompass archaeological, traditional, and built environment resources, including but not necessarily limited to buildings, structures, objects, districts, and sites. Cultural resources include locations of important events, traditional cultural places, sacred sites, and places associated with important people.

The discussion in this section is based on the confidential cultural resources technical report and impact analysis prepared for the Project (McDougall et al. 2023; Holguin et al. 2024).

3.6.1 Regulatory Framework

Numerous laws and regulations require federal, 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 Laws, Regulations, and Policies

There are numerous state regulations and policies that direct management of cultural resources on state lands and by state agencies. The following is a discussion of the most pertinent laws affecting the Project and impact analysis from a state and California Environmental Quality Act (CEQA) perspective. These laws identify three types of resources: historical resources, unique archaeological resources, and human remains. Tribal Cultural Resources (TCRs) are addressed in Section 3.20, Tribal Cultural Resources.

Historical Resources

Under CEQA, cultural resources listed on, or determined to be eligible for listing on, the California Register of Historical Resources (CRHR) or a local register must meet the CEQA definition of "historical resources" and must be given consideration in the CEQA process. For this environmental impact report (EIR), effects on historical resources may be considered impacts of the Project. Under the California Code of Regulations (CCR), Title 14, Chapter 11.5, properties listed on or formally determined to be eligible for listing on the National Register of Historic Places (NRHP) are automatically eligible for listing on the CRHR. A resource is generally considered to be historically significant under CEQA if it meets the criteria for listing on the CRHR. These criteria are essentially the same as the eligibility criteria for the NRHP. In addition to being

at least 50 years old, a resource must meet at least one (and may meet more than one) of the following four criteria:

- **Criterion 1**—It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- **Criterion 2**—It is associated with the lives of persons important to local, California, or national history;
- **Criterion 3**—It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master or possesses high artistic values; or
- **Criterion 4**—It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation

In addition, historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association.

Unique Archaeological Resources

Additionally, CEQA states that it is the responsibility of the lead agency to determine whether a project will have a significant effect on "unique" archaeological resources. An archaeological artifact, object, or site can meet CEQA's definition of a unique archaeological resource even if it does not qualify as a historical resource (California Public Resources Code, Section 21083.2[g]; 14 CCR 15064.5[c][3]). An archaeological artifact, object, or site is considered a unique archaeological resource if "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" (California Public Resources Code, Section 21083.2[g]):

- 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.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.
- If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be taken to preserve these resources in place or provide mitigation measures.

Human Remains

California Public Resources Code, Sections 5097.98(b) and (e), require a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until the landowner confers with the Native American Heritage Commission-identified Most Likely Descendants to consider treatment options. In the absence of Most Likely Descendants or of a treatment acceptable to all parties, the landowner is required to re-inter the remains elsewhere on the property in a location not subject to further disturbance. Section 5097.99 establishes as a felony the acquisition, possession, sale, or dissection with malice or wantonness Native American remains or funerary artifacts. Finally, Section 5097.991 establishes as state policy the repatriation of Native American remains and funerary artifacts.

California Health and Safety Code Section 7050 makes it a misdemeanor to mutilate, disinter, wantonly disturb, or willfully remove human remains found outside a cemetery and further requires a project owner to halt construction if human remains are discovered and to contact the county coroner.

Local Laws, Regulations, and Policies

Riverside County General Plan

The purpose of the Cultural Resources section of the Multipurpose Open Space Element of the Riverside County (County) General Plan is to protect and preserve cultural (both archaeological and historic) resources. The following policies included in the Multipurpose Open Space Element relate to the Project with regards to cultural resources (County of Riverside 2015).

- **Policy OS 19.1.** Cultural resources (both prehistoric and historic) are a valued part of the history of the County of Riverside.
- **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 that, at a minimum would address each of the following: application of the Cultural Resources Program to projects subject to environmental review; government-to-government consultation; 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; curation and the descendant community consultation requirements of local, state and federal law. (Action Item 144)
- **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. (Action Item 145)
- **Policy OS 19.5.** Exercise sensitivity and respect for human remains from both prehistoric and historic time periods and comply with all applicable laws concerning such remains.

Desert Center Area Plan. The purpose of the Land Use section in the Desert Center Area Plan is to strengthen and/or preserve the identify, character, and features unique to the Desert Center area. One of the goals regarding Conservation and Open Space Resources in the Desert Center Area Plan (County of Riverside 2021, p. 2) is, "…to consider our environmental resources, recreation needs, habitat systems, and visual heritage as one comprehensive multi-purpose open space system." The Open Space land use designation for Conservation includes (among other things): "The protection of open space for natural hazard protection, cultural preservation, and natural and scenic resource preservation" (County of Riverside 2021, p. 15).

3.6.2 Environmental Setting

Natural Setting

The Project is in the northern margin of the Colorado Desert Region, 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 floor. 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. Average daily temperatures typically range from 66°F in the winter to 105°F in the summer, although summer

temperatures can be upward of 120°F. Annual rainfall totals within the Colorado Desert are among the lowest in the Sonoran Desert, averaging less than 2 inches per year in the Salton Trough and between 2 and 4 inches near the Colorado River.

The Project is in the Chuckwalla Valley. Mountains that surround the valley include the Palen and Coxcomb ranges to the north and northeast, the Eagle Mountains to the west, and the Chuckwalla Mountains to the south. The Chuckwalla Valley basin includes four dry lakes or playas: Palen Lake, Ford Lake, Hayfield Lake, and an unnamed playa between the McCoy Range and Mule Mountain. Materials for ground stone tools, such as gneiss, schist, and granitic rocks from bedrock in the mountains, would have been abundant within many areas of the alluvial piedmont and available for ground stone tool manufacture or heat retention in hearth features. Surface water sources are minimal in the Chuckwalla Valley, limited to seasonal and perennial sources. Perennial water comes from the Colorado River, which lies approximately 50 miles east of the Project site and is one of the major river systems in North America.

The primary plant community in the Colorado Desert is Sonoran Desert Scrub, which is dominated by creosote bush. Other plant communities include Desert Dry Wash Woodland and Desert Pavement, which exist in small patches across the Project site. The majority of the area has been converted to agricultural production, most of which is fallow today. Animals present in the area include desert cottontail, jackrabbit, kangaroo rat, packrat, chuckwalla iguana, desert tortoise, and desert quail.

Prehistoric Setting

The Project site is near the boundary of the Colorado and Mojave deserts and is located along a known prehistoric and historic travel corridor. Scholars suggest multiple groups were present in the region at various times. Groups in the region originated from portions of the Mojave Desert, the interior Colorado Desert, and the Colorado River, as well as more distant locations, such as the peninsular ranges, the Sonoran Desert region east of the Colorado River or elsewhere in the southwestern cultural sphere of Arizona, New Mexico, and Mexico. Therefore, the area's archaeological record also may reflect affinities with any of these regions. Consequently, the prehistoric context herein draws on current knowledge from both the Mojave and Colorado desert regions.

Paleoindian Period (circa 12,000 to 8000 BP)

This first period of human occupation in California is commonly referred to as the Paleoindian Period (circa 12,000 to 8,000 years before the present [BP]). 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, approximately 30 miles northwest of the Project area, and near McCoy Spring in the northern Chuckwalla Valley, approximately 30 miles due east. However, few Paleoindian archaeological sites have been identified in the Colorado Desert. The lack of evidence may be due to an absence of large-scale data recovery efforts in the region and the instability of landforms rather than a lack of human occupation.

Archaic Period (8000 to 1500 BP)

During the Archaic Period (8000 to 1500 BP), 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.

Late Prehistoric Period (1500 BP to Historic Period)

The Late Prehistoric Period (1500 BP to the historic period) is represented in this region by the Patayan complex. By this time, an extensive network of established trade routes wound their way through the desert. 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 are often found along trails.

Artifacts typical of the Late Prehistoric Period include Desert Side-notched and Cottonwood projectile points, brownware and buffware ceramics, and steatite shaft straighteners. 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 shorelines of ancient Lake Cahuilla, which rose and fell multiple times over the course of human history in the Salton Trough where the Salton Sea sits today (between approximately 30 and 60 miles southwest of the Project area).

Numerous petroglyphs and 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.

Ethnographic Setting

There is archaeological evidence that ancestors of the Yuman language groups have been in the area for some time. However, these were not the only people who would have used this area. Ethnographic information indicates that several other Native American groups, such as the Cahuilla and Chemehuevi, at least traversed the vicinity of the Project.

Native use of the Chuckwalla Valley area in the eighteenth and early nineteenth centuries was conditioned by its location as a frontier or boundary zone between the Halchidhoma to the east and the Takic groups, the Cahuilla, to the west. The Halchidhoma were linked to the desert division of the Cahuilla and the mountain division of the Serrano by ties of political friendship and long-distance exchange. Thus, the Chuckwalla Valley area formed a geographical link between these groups and formed a major travel corridor for communication between them. In addition to this east–west travel, the Chuckwalla Valley also provided a corridor for north–south travel between the territories of two Colorado River groups who were enemies of the Halchidhoma, the Mohave (also spelled Mojave) and the Quechan. Traveling parties from either one of these two groups going up or down the Colorado River had to veer away westward from the Palo Verde Valley to avoid the Halchidhoma. This often took them through the Chuckwalla Valley region.

Ethnohistorical and ethnographic sources for the Chuckwalla Valley area have been limited because the area was not regularly visited by non-native people until the 1860s. This was due in part to the fact that water and feed management on the eastern California deserts posed a severe challenge to successful horse or mule travel to the Colorado River and Arizona by non-native people. In addition, the boundaries and areas of settlement of native groups in the region have changed over time. Thus, ethnohistoric information and archaeological data may outline different patterns of occupation and territoriality. Nevertheless, it can be said with confidence that most groups living in the vicinity of the Project when the Spanish first made forays into the area spoke languages in the Yuman family of the Hokan language stock. These include the Halchidhoma, the Mohave, and the Quechan. Surrounding groups are Uto-Aztecan speakers; the Chemehuevi speak a language of the Numic branch, and the Cahuilla are Takic-speakers.

The final desiccation of Lake Cahuilla is thought to have caused major disruptions in the population in the Colorado Desert, perhaps contributing to the persistent warfare reported along the lower Colorado and Gila Rivers.

Native American groups with historical tribal territories falling within the vicinity of the Project site include the Quechan, Halchidhoma, Mohave, Chemehuevi, and Desert Cahuilla, which are discussed briefly below.

Quechan

Quechan is a variation on the names Kwichyan or Kuchiana, but this group is also commonly known as the Yuma; today they refer to themselves as Kw'tsan. The Quechan are among the Yuman groups who occupied the lower Colorado River where it forms the boundary between California and Arizona. Prior to European contact, 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. 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. 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.

Halchidhoma

The Halchidhoma (also known as the Panya) are a Yuman group who, until about 1825, lived along the Colorado River between the present-day cities of Blythe and Needles. According to the oral history of the Halchidhoma, they traveled south to Mexico where they lived adjacent to a Yaqui settlement until around 1838 when most died of an epidemic. At that point, the remaining Halchidhoma moved northeast and eventually settled down with the Maricopa tribe, another Yuman group living along the Gila River.

The Halchidhoma were known to travel and trade over great distances. The Coco-Maricopa Trail, leading west from a portage point across the Colorado River adjacent to the City of Blythe, linked the Halchidhoma with the Pacific coast. Ceramic seriation and radiocarbon dates from marine shell artifacts indicate that an extensive trade network between the Pacific coast and the lower Colorado River region was established by at least 1100 BP. The Halchidhoma traded with the Cahuilla, Hualapai, Papago, and Pima of Arizona, and were closely allied with the Maricopa.

By all accounts, the Halchidhoma were frequently in conflict with their Colorado River neighbors, the Quechan and Mohave. During the decades, if not centuries, of open hostility, the Halchidhoma established strong alliances with the Maricopa and Cocopah peoples who lived to the east along the Gila River.

Ultimately, the Halchidhoma went to live with and intermarried with their allies the Maricopa, and are, therefore, poorly documented in the ethnographic literature.

Mohave

The Mohave Indians were 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 Oñate, may have observed this group as early as 1604 based on his descriptions of the "Mohave" people along the Colorado River. The Mohave are notable for their understanding of themselves as a unified "nation" of people, known as the Hamakhava, rather than as a series of loosely related clans or villages. The whole of the Mohave acted together in defending their territory and attacking their enemies.

During much of the year, the Mohave lived in villages on terraces above the Colorado River, only moving down onto the floodplain in the spring to plant crops after the seasonal floods. Like other lower Colorado River peoples, the Mohave relied on floodplain horticulture, fishing, and gathering for subsistence. Planted crops included maize, black-eyed beans (cowpeas), squash, pumpkin, and several local grasses. Cultivated plants were supplemented by the collection of wild plant foods including honey mesquite and mesquite screwbean, which could be stored for long periods of time and were traditional staple foods. Although the pods of both plants could be eaten green, they were usually pounded into flour using long stone or wooded pestles. Additionally, screwbean pods were often processed in large pits dug into sandy soil where the pods were placed, covered with vegetation, and then periodically watered to leach out bitter compounds.

The Mohave are well known for their long-distance travel. Like other Colorado River tribes, they participated in a trade network extending east to the Pueblos of Arizona and west to the Pacific coast. A number of important passes and routes of travel, including the well-known Mohave trail connecting the high deserts with the Southern California coastal valleys, were developed or frequented by the Mohave. The endurance and speed of Mohave travelers were legendary at the time of European contact. During the Colonial era, the Spanish frequently encountered groups of traveling Mohave who continued the tradition of desert–coastal travel and trade throughout the mission period, occasionally in conflict with the wishes of Spanish officials.

The importance of dreaming, and the belief in the fundamental interrelationship between the mundane and spiritual worlds, was particularly developed among the Mohave. All people were capable of meaningful dreaming, and most individuals came to their chosen roles in life as a result of their dreams. In dreams, the Mohave travel in a mythical place and time when the world was first formed and the important places, such as mountains and springs, came into being. Dreams also inform public rituals, and the many complicated "song series" that singers perform from memory are said to be dreamed as much as learned. The songs of the Mohave are remarkably specific geographically. Thus, Mohave songs seem to act as a means of storing and transferring important landscape knowledge; they are, among other things, a collection of meaningfully constituted mental maps of the Mohave territory and beyond. Many nearby groups, including the Chemehuevi, borrowed extensively from the Mohave song series repertoire.

Chemehuevi

The Chemehuevi are the southernmost of 16 groups of Southern Paiute peoples, and the only non-Yuman group living along the lower Colorado River at the time of European contact. The traditional territory of the Chemehuevi was an extensive area southwest of Las Vegas, including portions of the eastern Mojave Desert of California. The Chemehuevi lived along the lower Colorado River, although only within the last

few hundred years. Their traditional territory was the largest of any tribe in California speaking the same dialect. They occupied a huge portion of the eastern Mojave Desert, ranging from the Old Woman Mountains in eastern San Bernardino County, west to an undefined point in the middle of the Mojave Desert where Serrano territory began, and as far south as the Riverside/Imperial County line. The Spanish missionary explorer Francisco Garcés in 1775–1776 suggested that the northern Chuckwalla Valley was in the territory of the Chemehuevi.

The Chemehuevi living in the deserts practiced a relatively nomadic hunting/gathering way of life, with larger settlements near reliable water sources, but no permanent villages. Groups moved with the rhythm of the seasons, arriving to harvest plant foods as they matured and hunting primarily small game. Hunting parties also traveled to the San Bernardino Mountains and visited with their allies the Northern Serrano, or Vanyume. Owing to the impermanence of most desert encampments, housing was typically of brush erected to protect inhabitants from the harsh sun and wind. Several foods, including dried meats, dried melon and squash, agave hearts, and various seeds, were stored in specially prepared baskets, earth pits, and caves. Chemehuevi groups did not live permanently with their food caches, though, and the stealing of cached food was apparently a grave issue, one that could incite war and inflict spiritual harm.

Until their expansion into the lower Colorado River region, the Chemehuevi did not use pottery, but relied instead on a variety of woven baskets and implements, often with painted designs. Chemehuevi hunters were known for their recurved, sinew-backed bows, which, though shorter than comparable Mohave bows, were nonetheless accurate, powerful, and well suited to hunting deer and other big game. Those groups that settled along the Colorado River adopted agriculture, more substantial wooden dwellings, pottery, and a number of other cultural features from their riverine neighbors. They are known to have constructed hand-dug wells.

Despite an underlying friction, the Chemehuevi were traditional allies of the Mohave. After the Halchidhoma were driven from the Colorado River area in the early nineteenth century, the Chemehuevi moved into the Parker/Blythe area vacated by the Halchidhoma. Some Chemehuevi families moved to the Mara Oasis, near what now is the city of Twenty-nine Palms. Some scholars suggest that the Chemehuevi may have settled in the Palo Verde Valley vicinity before the expulsion of the Halchidhoma. According to Mohave tradition, the Chemehuevi were invited to come to the Colorado River after 1830. Chemehuevi sources, though, suggest that the Chemehuevi Valley and Cottonwood Island along the Colorado River were part of the Chemehuevi traditional territory prior to the 1800s. This continues to be a point of disagreement between scholars and between the descendants of the historical Mohave and Chemehuevi.

In the Protohistoric and Historical periods, the Chemehuevi traveled extensively through the deserts and as far west as the Pacific coast simply for exploration purposes, and to exchange goods and obtain marine shell ornaments and raw materials. Periodically, small groups of Chemehuevi and Las Vegas Southern Paiute would travel together to the Hopi villages in Arizona, although those trips were described as purely social visits involving gift exchanges, not trading expeditions.

Desert Cahuilla

The Cahuilla language, divided into Desert, Pass, and Mountain dialects, has been assigned to the Cupan subfamily of the Takic branch of the Uto-Aztecan linguistic family. Territory traditionally claimed by the Cahuilla stretches from the summit of the San Bernardino Mountains in the north to Borrego Springs and the Chocolate Mountains in the south, a portion of the Colorado Desert west of Orocopia Mountain to the east, and the San Jacinto Plain near the City of Riverside and the eastern slopes of Palomar Mountain to the west.

Cahuilla villages usually were located in canyons or on alluvial fans near water and food patches. The area immediately around a village was owned in common by a lineage. Other lands were divided into tracts owned by clans, families, and individuals. Numerous sacred sites with rock art were associated with each village. Villages were connected by trail networks used for hunting, trading, and social visiting. Trading was a prevalent economic activity. Some Cahuilla were trading specialists. The Cahuilla went as far west as the Channel Islands and east to the Gila River to trade.

The Cahuilla had access to an immense variety of plant resources present within a diverse suite of habitats. Several hundred plant species were used for food, manufacture, and medicine. Acorns, mesquite and screw beans, pinyon nuts, and cactus fruits were the most important plant foods. They were supplemented by a host of seeds, tubers, roots, bulbs, fruits and berries, and greens. Corn, beans, squash, and melons were cultivated. More than 200 species of plants were used as medicines. Hunting and meat processing were done by men. Game included deer, mountain sheep, pronghorn, rabbits, rodents, and birds. These were pursued by individuals and communal hunting groups. Blinds, pits, bows and arrows, throwing sticks, nets, snares, and traps were used to procure game. Communal hunts with fire drives sometimes occurred.

Mortars and pestles, manos and metates, pottery, and baskets were used to process and prepare plant and animal foods. Cahuilla material culture included a variety of decorated and plain baskets; painted/incised pottery; bows, arrows, and other hunting-related equipment; clothing, sandals, and blankets; ceremonial and ritual costumes and regalia; and cordage, rope, and mats. Games and music were important social and ritual activities for the Cahuilla.

Historic Setting

In California, the historic era is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present). Although Europeans did pass through the Project area during the Mission and Mexican Periods, all the resources identified in the Project area are associated with the American Period. As such, the following discussion emphasizes the American Period. The history of the area relates to themes involving the development of the west and the Colorado Desert, mining and homesteading activities, military desert training, and agribusiness in the late twentieth century. The areas of regional development, transportation, mining, water conveyance, military training activities, and agriculture and ranching are briefly described below.

Regional Development

In the early 1800s, prospectors were some of the only Euro-Americans traveling in the California deserts, and they frequently came into conflict with Native American groups. In the 1820s, limited placer mining began in the eastern Colorado Desert. Regionally, mining and prospecting activities were most intense in the mountains and high deserts of the Mojave, but small-scale mining has been a consistent feature of the Colorado Desert from the 1800s to the present day.

After the Treaty of Guadalupe Hidalgo in 1848, the United States took control of the Southwest and established a series of camps and forts throughout the Arizona, Nevada, and California deserts. The U.S. Cavalry was used to protect settlers and immigrants from the often-hostile tribes whose territories they were invading. Following the discovery of gold at Sutter's Mill the same year, mining camps were established in the desert beginning with Salt Creek in the Armargosa Desert. In the 1850s, some would-be miners tried their luck in the eastern Colorado Desert but found very little gold. Most miners simply passed through the desert on their way to the larger strikes to the west and north.

As part of an effort to establish a railroad route from St. Louis to the Pacific Ocean, the U.S. government conducted a series of surveys from 1853 to 1855 to identify feasible routes. Lieutenant Amiel Weeks Whipple, a topographical engineer in the U.S. Army, was assigned the task of determining the westernmost section of the route from Arkansas to Los Angeles. Whipple passed through Mojave territory in 1854, crossing the Colorado River near present-day Needles. The railroad surveys recorded the terrain and geology of the Colorado Desert. The land that includes the Project site was included in the survey in 1853.

Along the eastern bank of the Colorado River, the town of La Paz, Arizona, developed when gold was discovered nearby. The subsequent gold rush made La Paz an instant boomtown with a population that peaked at 1,500 in the 1860s. By 1863, between 2,500 and 3,000 Americans and Mexicans were on the river between Palo Verde Valley and El Dorado Canyon, most of them engaged in mining. Along the stage line between San Bernardino and the Colorado River, La Paz was an important stop, serving as the county seat for Yuma County until 1870. The La Paz mining district yielded placer gold for only a short period; by the end of the nineteenth century, La Paz went from boomtown to ghost town.

Significant economic development of the Colorado Desert region began in the 1870s and came to fruition in the early part of the twentieth century. Development was dependent largely on two things: water and transportation. Development of transportation came in 1872 with the construction of the Southern Pacific Railroad from Los Angeles to present-day Indio and, eventually, Yuma. The early townsite of Indio, the mid-point between Los Angeles and Yuma, was created to provide living quarters for train crews and railroad workers. A nearby Native American reservation provided some of the labor force for the construction of those living quarters. The first trains ran on May 29, 1876. The Southern Pacific Railroad reached Yuma on September 30, 1877. Railroad stops were built at Walters (now called Mecca), Woodspur (Coachella), and Thermal, among others. The second transcontinental railroad was completed when the Southern Pacific and the Atchison, Topeka, and Santa Fe Railroads were linked at Deming in New Mexico Territory on March 8, 1881, providing settlers relatively quick and easy access to the region.

The railroad was the single most important boost to mining in the southeastern Colorado Desert, offering convenient transportation of heavy mining equipment, supplies, personnel, and bullion. By 1880, the Southern Pacific Railroad was providing regional access to gold and silver ore deposits in the Chocolate Mountains, Cargo Muchachos, and Palo Verde Mountains. When mines opened up near the turn of the twentieth century, stamp mills and small tracks leading from the mines to the stamp mills were built. Mining productivity in the southeastern Colorado Desert was greatest between 1890 and 1910, with a brief resurgence in the 1930s.

A further boost to regional development in the Colorado Desert was the rail rate war of 1887, when fares from Missouri River to California were slashed to $1. Advertising programs were developed to attract settlers to the West. With the railroad to transport crops and the consistently warm climate, areas in the desert were attractive places for prospective farmers of the time. Besides settlers, others were attracted to sanitariums that took advantage of the warm climate and desert hot springs at Palm Springs for health reasons.

Community Development – Desert Center

There are few communities in the Chuckwalla Valley. Desert Center is the closest community, approximately 3 miles south of the Project site. The largest nearby city is Blythe, which is located 40 miles east. Other smaller communities include Hell, Lake Tamarisk, and Eagle Mountain; none are currently occupied.

Desert Center was founded in 1921 by Stephen Ragsdale, who opened a small gas station and diner with his wife Lydia. It is situated along a segment of former U.S. Highway 60/70 (Ragsdale Road) near the intersection of Rice Road (State Route 177) and north of Interstate (I) 10. The town's core buildings,

including the Desert Center Café, automobile garage/service station, and cabins on the south side of Ragsdale Road as well as the post office and market on the north side are on lots that were originally carved out of a larger 40-acre parcel acquired by Ragsdale through a land patent from the State of California approved December 22, 1926.

They pumped gasoline from a 55-gallon drum and served food to weary travelers. Ragsdale was successful in establishing the town along Route 60. It was moved 5 miles to the north to its current location along the freeway following construction of I-10. The community of Desert Center experienced a resurgence associated with the Desert Training Center/California-Arizona Maneuver Area (DTC/CAMA) and the establishment of Camp Desert Center and Airfield. The town, however, once again became a small quiet roadside attraction after the DTC/CAMA was closed at the end of WWII. The airfield is now privately owned.

Transportation

William D. Bradshaw blazed the first road through what is now Riverside County in 1862 as an overland stage route beginning at San Bernardino, California, and ending at La Paz (now Ehrenberg), Arizona. Early in the 1860s, Hank Brown and John Frink independently developed routes to access the gold mines in the vicinity of La Paz. Frink's route was an east–west road established as an alternative to the more southern Butterfield Stage route. This was apparently the first Anglo development across the Palo Verde Mesa, although it has since all but disappeared. Bradshaw's route, later known eponymously as the Bradshaw Trail, crossed the desert to the La Paz mining district. Bradshaw also operated a ferry across the Colorado River near Providence Point, opposite a small community that would become Ehrenberg, Arizona.

Bradshaw developed his road partly along Brown's and Frink's previous routes, although Bradshaw's trail headed more directly east from Salt Creek Pass to the north slopes of the Chocolate Mountains. Bradshaw, like the majority of early trailblazers, used Native American routes that predated Spanish exploration. Part of Bradshaw's trail may have been the Coco-Maricopa Trail, which intersected the Colorado River near Blythe and may have passed from west to east approximately 15 miles due south of the Project area. The Bradshaw Trail is near Corn Spring. The Bradshaw Trail, like many other cross-country routes, became largely obsolete with the arrival of rail service in the desert and the depletion of the La Paz gold fields in the late 1870s. The railroads reoriented the development of trails and wagon roads that connected new mining communities to major routes of transportation. Railroad stops became destinations for wagon roads, allowing points of access for development of the remote desert interior. Bradshaw's trail has been largely obliterated and is now a 65-mile-long graded road that traverses mostly public land south of the Chuckwalla Mountains.

The early highway system in the United States developed out of a patchwork of trails that later became unimproved roads and eventually were connected into an integrated system of paved routes. Often, early roads in the United States followed prehistoric trails. One of the earliest transportation corridors through the Chuckwalla Valley included U.S. Highways 60 and 70, currently known as Chuckwalla Valley Road. As late as 1926, portions of Chuckwalla Valley Road were still unpaved.

Today, I-10 is the major transportation corridor through the Chuckwalla Valley and the major connector between Los Angeles and Phoenix. The road was completed in 1968 and has become a major east–west corridor for travelers and commercial traffic.

Mining

Riverside County was known historically for its sporadic, small-scale mining of gold, silver, lead, copper, uranium, fluorite, and manganese. Large numbers of prospectors were attracted to the region during the gold boom in La Paz (in western Arizona, 6 miles north of present Ehrenberg) in 1862. Not long after,

miners and prospectors began combing the mountains on either side of the Chuckwalla Valley. Gold was being mined as early as 1865 in the Eagle Mountain District. Much later, in the late 1940s, Kaiser Steel began a large-scale iron ore mining operation in the Eagle Mountains. In the 1950s, the Blythe-Eagle transmission line was constructed. It was a 161-kilovolt (kV) transmission line that connected a substation in Blythe to a substation near Eagle Mountain for the purpose of providing power to the mine and the community of mine workers.

In the Granite Mountains to the north-northwest, there was a short stint of gold mining beginning in 1894, followed by a resurgence in the late 1920s by the Chuckwalla Mining and Milling Corporation. Copper mining occurred in the Palen Mountains to the northwest during the 1910s, by the Fluor Spar Group, Homestake Group, Crescent Copper Group, Orphan Boy, and Ophir mines. Most of these mines were abandoned only a few years later.

The short-lived Pacific Mining District in the Chuckwalla Mountains was established in 1887, following gold and silver discoveries that caused the most substantial rush to Riverside County in its history. Sixty claims were filed by the end of the year, but the boom fizzled by 1890 because the owners never had enough capital to work them properly. In about 1898, some 40 claims in the area were taken up by the Red Cloud Mining Company. In 1901, a force of 50 men worked there. The company installed a new hoist and a 30-ton mill and was raising money through stock offerings to construct a tram from the mine to the mill. The company changed hands some time before 1915, however, and folded soon after. Just prior to this, six prospectors began working the Chuckwalla Placer Diggings near Chuckwalla Springs—this lasted about 15 years. The Red Cloud Mine was resurrected in 1931, when a small amalgamation plant was built, and continued operations until 1945.

With the onset of World War II, the demand for steel increased. However, the iron ore in the Eagle Mountain claims was protected as part of the Joshua Tree National Monument, established in 1936. Henry J. Kaiser had a steel mill at Fontana and the Vulcan iron mine near Kelso that supplied materials for his West Coast shipyards. Kaiser purchased the Eagle Mountain Mine and succeeded in having the boundaries of Joshua Tree Monument shifted to exclude Eagle Mountain. Kaiser constructed a rail line that connected to the Southern Pacific Railroad, and ore mining commenced in 1948. By 1971, the Eagle Mountain Mine produced 90% of California's iron.

At its height, the mine employed more than 4,000 people, making it the largest employer in Riverside County. The town of Eagle Mountain included schools, fire and police departments, 416 rental houses, 185 trailers, 383 dormitories, and 32 apartments. Kaiser Steel needed to provide medical care for the residents of Eagle Mountain, and medical care provided by the company eventually became what is today Kaiser Permanente. The mine closed in 1983 because of economic factors and competition from abroad.

Water Conveyance

The Colorado River Aqueduct (CRA) is a water conveyance system operated by the Metropolitan Water District of Southern California. Construction began in 1933 and water first flowed through the system in 1941. The CRA system carries Colorado River water, impounded at Lake Havasu on the California-Arizona border, through, over, and across mountains and desert to the coastal and inland valleys of Southern California. The CRA stretches 242 miles from Parker Dam to Lake Mathews (formerly known as Cajalco Reservoir). Water from Lake Mathews is then distributed to local water districts in the Los Angeles basin and lower Santa Ana River drainage. The system is composed of 2 reservoirs, 5 pumping plants, 63 miles of canals, 92 miles of tunnels, 84 miles of buried conduit and siphons, and a filtration plant at La Verne, California. The nearest of these pump stations to the Project area is the Eagle Mountain Pump Lift, located 7 miles north of Desert Center.

Construction of the CRA involved ingenious engineering solutions and newly introduced equipment at the time of its construction. It also employed more than 35,000 people during an 8-year span of construction, and as many as 10,000 people at one time, making it Southern California's single largest work opportunity during the Great Depression. Prior to beginning construction, little to no infrastructure was present in the desert. Roadways, power lines, telephones, and water sources had to be built to accommodate the work effort required. Due to its many engineering merits, the CRA has been named a National Historic Civil Engineering Landmark by the American Society of Civil Engineers. Today, it is one of the principal water supply systems for Southern California.

Military Training Activities

Evidence of military training is present across the Colorado Desert. George Patton's DTC/CAMA and Operation Desert Strike have left many artifacts, features, and sites across the region. The DTC/CAMA was established in the 1940s to prepare U.S. troops for possible deployment to North Africa. The Project site is in the western portion of the large area where this training took place.

Desert Training Center/California-Arizona Maneuver Area

In 1942, during World War II, General George S. Patton, Jr., established the DTC/CAMA in a sparsely populated region of southeastern California, Arizona, and Nevada. Its purpose was to prepare tank, infantry, and air units for the harsh conditions of North Africa by practicing maneuvers, developing tactics, and field-testing equipment. The installation was in operation for 2 years and covered 16,000 square miles. It was the first simulated theater of operations in the United States. Its location was chosen for its unforgiving desert heat, rugged terrain, available telephone communications system, and accessibility by established railroads and highways.

Recent renewable energy projects in the region have identified many DTC/CAMA-related sites, artifacts, and features. These resources were understood to be pieces of a larger historic district that represents an important piece of the military history of the nation. The DTC/CAMA was the largest training facility and the only one of its kind in American military history, eventually encompassing more than 16,000 square miles. The tactical, strategic, and logistical doctrines developed and refined during the facility's life were applied overseas and undoubtedly helped to win World War II.

DTC/CAMA resource types include maneuver areas, divisional camps, small unit training areas, air facilities and crash sites, bivouacs, campsites, ranges, supply depots and railroad sidings, and hospitals and medical centers. Based on the proximity of Desert Center, sites within the Project area could be related to most of these property types. The following is a summary of properties known to be present in the vicinity of Desert Center.

Maneuver Areas: The Chuckwalla Valley. The greater Chuckwalla Valley was considered a maneuver area, consisting of 11,520 acres, and was considered "contaminated" immediately after the war. Units moved across this valley in many of the maneuvers, and bivouacs and defensive positions were established in many locations. Several passes adjacent to this valley also served as good training grounds for movement, attack, and defense.

Desert Center Airport. The Desert Center Army Airfield was first known as the Desert Center Airdrome and was operational beginning sometime in the winter of 1942–1943. The airfield was a sub-base of Thermal Army Airfield, as a support base for the Air Technical Services Command. The airport contained two paved runways, each measuring 5,000 by 150 feet, along with taxiways and a parking apron. More than 40 buildings were constructed at the airfield, including an operations building, powerhouse, control tower,

pump house and well, and a 10,000-gallon water tower. Several crash sites are known to exist in the DTC/CAMA, particularly in those areas close to air facilities.

Air-to-ground ranges are also considered a part of air facilities. For the most part, air-to-ground gunnery practice focused on the toe of mountains. Bombs and .50-caliber shell casings from these activities have been found in the years following the Army's departure from the area. There were likely range markers established on these facilities, along with targets for the aircraft to fire upon.

Desert Center Observer's Camp. A camp was established immediately north of the small town of Desert Center, along the road to Camps Coxcomb and Iron Mountain. It was here that the maneuvers were evaluated and deficiencies pointed out. The camp contained 112 tents, 5 shower buildings, and 8 latrines. The camp was also supplied with water through a well and pump along with a 4,000-gallon storage tank.

18th Ordnance Battalion Campsite. Located 5 miles east of Desert Center, this camp appears to encompass a watering point. The only structures reported included a capped well, a 50,000-gallon water tank, and a wooden tower. Tent stakes and other refuse have been found in an area that relate to this camp.

Small Arms Range – Desert Center. A small arms range was established southeast of the town of Desert Center on the north end of the Chuckwalla Mountains. Neither the type of weapons used here nor the units that used them are known.

Desert Center Supply Depot. A quartermaster truck site was established near the small community of Desert Center. A rock alignment for the 496th Medium Ordnance Company remains northeast of the town. The rock alignment spells out "496 MEDCO." An ammunition depot was established northeast of Desert Center, although its location has not been examined or confirmed.

Desert Center Evacuation Hospital. An evacuation hospital was established near the town of Desert Center on both sides of the road to Eagle Mountain. The hospital site remains in good condition today and retains its basic design and layout. Many rock-lined walkways, roads, symbols, tent sites, and other activity areas remain in place. Artifacts are dispersed across the site and in dumps.

Desert Strike

One brief military training exercise, known as Desert Strike, took place in the desert maneuver area in May 1964. Amidst the nuclear arms race, the U.S. Strike Command conducted the joint Army and Air Force field training exercise for the major combat organizations and their support units in employing tactical nuclear and conventional weapons. Army and Air Force troop units were trained in passive and active tactics, as well as concepts and procedures for joint operations.

The exercise was a two-sided enactment, with fictitious world powers "Calonia" and "Nezona" sharing a common border at the Colorado River. The premise of the conflict between these two entities, each led by a Joint Task Force, was a dispute over water rights. Major tactical operations during the exercise included deep armor thrusts, defensive operations along natural barriers, counterattacks including airmobile and airborne assaults, and the simulated use of nuclear weapons. The Air Force provided fighter, air defense, interdiction, counterair reconnaissance, and troop carrier operations in support of both joint task forces.

Agriculture/Ranching

Agriculture became an important industry, second only to mining, by the late 1850s. Homesteading formed the foundation for California's agricultural economy in the nineteenth century, and the official passage of the Homestead Act in 1862 opened vast areas of the public domain to private citizens. The Desert Land Act of 1877 also promoted the acquisition of open tracts of land, with an entitlement to 640

acres for each applicant, who were primarily speculators. Generally, lands that fell under this act were marginal for sustained agriculture. Transforming arid land into productive farming and grazing lands was a key factor in development. Although agriculture became an important industry in the Palo Verde Valley near Blythe and the Colorado River, significant agricultural development did not take place near the Project site until the late twentieth century.

The federal government and the State of California decided to invest in the cultivation of the jojoba plant as an alternative to sperm whale oil. A tax-break was given to private growers, and speculators began buying up acreage in the deserts of California, including the Chuckwalla Valley. In the late 1970s and early 1980s, farmers purchased land in Chuckwalla Valley and began commercially growing jojoba. Hundreds of farms were established in the 1980s by private farmers hoping to make a large profit. Approximately 6,000 acres of jojoba was planted, by seed, in Chuckwalla Valley.

However, the boom was short lived because the jojoba plant grows slowly, and it takes years for plants to produce oil. Many jojoba farms were converted to other crops, including asparagus. Currently, there is only one active jojoba farm in the Chuckwalla Valley, La Ronna Jojoba Company Farm. La Ronna Jojoba Company Farm is a research/mother block of a variety of cultivars.

3.6.3 Cultural Resources Inventory

Cultural Resources Study Area

The study area for direct effects to cultural resources is defined as all areas that would be subject to ground-disturbing activity associated with the development of the Project, which includes 1,082 acres of private land that comprise the Project area, specifically the solar site, as well as 41 acres on BLM lands (LFRs).

Indirect effects may occur from construction, operation, maintenance, and decommissioning of the Project. These effects can include visible, auditory, or atmospheric changes that impact the setting of the Project. The indirect effects area includes a 1-mile radius around the Project site.

Definitions of Cultural Resources

A cultural resource is defined as any object or specific location of past human activity, occupation, or use identifiable through historical documentation, inventory, or oral evidence. Cultural resources can be separated into three categories: archaeological, built environment, and TCRs.

Archaeological resources include both historic-era and prehistoric remains of past human activity. Historic-era resources can consist of structural remnants (such as cement foundations), historic-era objects (such as bottles and cans), and sites (such as refuse deposits or scatters). Prehistoric resources can include lithic scatters, ceramic scatters, quarries, habitation sites, temporary camps/rock rings, ceremonial sites, and trails.

Built environment resources consist of standing historic era buildings and structures, the latter of which include canals, roads and trails, bridges, ditches, and cemeteries.

Pursuant to CEQA Guidelines Section 5064.5, **historical resource** is a term used to define a prehistoric or historic-aged resource that is recommended eligible for, determined eligible for, or listed on the CRHR. Any resource that is determined eligible or listed on the NRHP is automatically eligible for listing on the CRHR and is considered a significant resource for the purpose of this analysis.

Additionally, a **unique archaeological resource**, as defined above in Section 3.6.1, Regulatory Framework, is also considered a significant resource for the purpose of this analysis.

Within the State of California there are provisions in CEQA, its Guidelines, and other provisions of the California Public Resources Code for the protection and preservation of significant cultural resources (i.e., "historical resources" and "unique archaeological resources"). The CEQA Guidelines provide three ways in which a resource can be a "historical resource," and thus a cultural resource meriting analysis: (1) the resource is listed on the CRHR; (2) the resource is included in a local register of historical resources (pursuant to Section 5020.1(k) of the California Public Resources Code), or identified as significant in an historical resources survey (meeting the criteria in Section 5024.1(g) of the California Public Resources Code); or (3) the lead agency determines the resource is "historically significant" by assessing CRHR listing guidelines that parallel the federal criteria (14 CCR 15064.5[a][1]-[3]). To qualify as a historical resource under (1) or (3), the resource must also retain the integrity of its physical identity that existed during its period of significance. Integrity is evaluated with regard to retention of location, design, setting, materials, workmanship, feeling, and association (14 CCR 4852[c]). Finally, under California law, Native American human remains and associated grave goods are granted special consideration.

Mitigation of cultural resources that are found to be ineligible for CRHR listing is not required (Title 36 CFR Section 800 and 14 CCR 15064.5[c][4)]).

Records Searches

Methodology

A review of existing data acquired from surrounding projects, including the Oberon Solar Project, the Desert Harvest Solar Farm Project, the Desert Sunlight Solar Farm Project, the Athos Renewable Energy Project, and the Arica and Victory Pass Solar Projects, was completed for the Project area. The review included a 1-mile buffer around the Project site (see Dyste et al. 2022). All records were either collected by PaleoWest (now known as Chronicle Heritage) or released by the Bureau of Land Management (BLM).

Additional sources were examined during the cultural resource literature review and records search, including the NRHP, the CRHR, the Office of Historic Preservation Archaeological Determinations of Eligibility and Directory of Properties in the Historic Property Data File, and historical aerial images and topographic maps.

Previous Studies

Records search results indicate that 13 previous investigations have been conducted and documented within 1 mile of the Project site since 1977. Of these, eight studies appear to include portions of or intersect the Project site. Approximately 85% of the Project site has been previously inventoried for cultural resources.

Previously Identified Resources

The records search indicated that 103 cultural resources have been previously documented within 1 mile of the Project site (Table 3.6-1). These resources include 22 historic-period sites, 2 prehistoric sites, 5 historic built-environment resources, 67 historic-period isolated artifacts, 5 prehistoric isolated artifacts, and 2 districts. Of the 103 previously documented resources, seven were documented in the Project area; these resources include two historic districts (the Prehistoric Trails Network Cultural Landscape [PTNCL] and Desert Training Center Cultural Landscape [DTCCL]), two historic built-environment resources (P-33-019415, the 161 kV Blythe-Eagle Mountain Transmission Line; and P-33-022247, linear earthen berms), two historic refuse scatters (P-33-018392 and 19-387-KJ-001H), two historic isolated artifact artillery lids (19-387-WH-ISO-001H and 19-387-WH-ISO-002H), and a prehistoric isolated flaked stone artifact (P-33-022253). Of the seven resources previously documented in the Project area, four are located within the

LFR corridors on BLM-managed lands (P-33-018392, 19-387-KJ-001H, 19-387-WH-ISO-001H, and 19-387-WH-ISO-002H), two are within or cross both the solar array and LFR portions (P-33-019415 and P-33-022247), and one is within the solar array only (P-33-022253).

Descriptions of the seven previously recorded cultural resources within the Project area are provided below.

Table 3.6-1. Previously Recorded Cultural Resources within 1 Mile of the Project Area

Primary No.	Trinomial	Age	Type	Description	Within Project Area
19-387-KJ-001H	—	Historic	Site	Rock pile, tank tracks, and refuse scatter	Yes
19-387-KJ-002H	—	Historic	Site	DTC-related refuse scatter	No
19-387-KJ-003H	—	Historic	Site	DTC-related depression and refuse scatter	No
19-387-KJ-004H	—	Historic	Site	Refuse scatter	No
19-387-KJ-005H	—	Historic	Site	Refuse scatter	No
19-387-KJ-006H	—	Historic	Site	DTC-related refuse scatter	No
19-387-KJ-007H	—	Historic	Site	DTC-related refuse scatter	No
19-387-KJ-008H	—	Historic	Site	DTC-related refuse scatter	No
19-387-KJ-010	—	Prehistoric	Site	Lithic scatter	No
19-387-KJ-BE-009H	—	Historic	Isolate	County survey marker (iron pipe with brass cap)	No
19-387-KJ-ISO-001H	—	Historic	Isolate	Thatcher Milk Glass Company clear glass bottle	No
19-387-KJ-ISO-002H	—	Historic	Isolate	Amber-colored glass bottle	No
19-387-KJ-ISO-003H	—	Historic	Isolate	Glass bottle, flat top beverage can, and metal pull tab can	No
19-387-KJ-ISO-005H	—	Historic	Isolate	Iron metal round ball	No
19-387-KJ-ISO-006H	—	Historic	Isolate	Clear glass beverage bottle	No
19-387-KJ-ISO-007H	—	Historic	Isolate	Amber glass beverage bottle	No
19-387-KJ-ISO-008H	—	Historic	Isolate	Flat top beverage can with two church-key punches	No
19-387-KJ-ISO-010H	—	Historic	Isolate	Metal coffee tin lid	No
19-387-KJ-ISO-011H	—	Historic	Isolate	Wooden ladder	No
19-387-KJ-ISO-012H	—	Historic	Isolate	Clear glass beverage bottle	No
19-387-KJ-ISO-013H	—	Historic	Isolate	Clear glass beverage bottle	No
19-387-KJ-ISO-014H	—	Historic	Isolate	Clear glass beverage bottle	No
19-387-KJ-ISO-016H	—	Historic	Isolate	Foster Forbes Glass Co. clear glass jar	No
19-387-KJ-ISO-019H	—	Historic	Isolate	Amber glass medicine bottle	No
19-387-KJ-ISO-020	—	Prehistoric	Isolate	Fine-grained volcanic unifacial chopper	No
19-387-WH-008H	—	Historic	Site	DTC-related artifact scatter	No
19-387-WH-ISO-001H	—	Historic	Isolate	Two 105-millimeter Howitzer lids	Yes
19-387-WH-ISO-002H	—	Historic	Isolate	One 105-millimeter Howitzer lids	Yes
AE-3752-67H	—	Historic	Site	Underground water well	No
AE-3752-C3-01	—	Prehistoric	Site	Ceramic artifact scatter	No
—	—	Prehistoric	District	Prehistoric Trails Network Cultural Landscape (PTNCL)	Yes
—	—	Historic	District	Desert Training Center Cultural Landscape (DTCCL)	Yes

Table 3.6-1. Previously Recorded Cultural Resources within 1 Mile of the Project Area

Primary No.	Trinomial	Age	Type	Description	Within Project Area
P-33-006825	—	Historic	Site	Boulder well; well site, boiler site, sand-filled cement reservoir	No
P-33-006836	CA-RIV-10759H	Historic	Site	WWII-era Desert Center Army Airfield	No
P-33-017373	—	Historic	Structure	Circle E Ranch; Totem Pole Date Ranch	No
P-33-018249	CA-RIV-9383	Historic	Site	Prospect pit and associated push pile	No
P-33-018259	CA-RIV-9387	Historic	Site	Prospect pit and push pile	No
P-33-018391	CA-RIV-11903	Historic	Site	Refuse scatter	No
P-33-018392	CA-RIV-11904	Historic	Site	Refuse scatter and tank tracks	Yes
P-33-018459	—	Historic	Isolate	Vent hole evaporated milk can	No
P-33-018462	—	Prehistoric	Isolate	Bifacial chopper	No
P-33-018463	—	Historic	Isolate	Single evaporated milk can	No
P-33-018472	—	Historic	Isolate	Church key opened beverage can	No
P-33-018477	—	Historic	Isolate	Vent hole evaporated milk can	No
P-33-018478	—	Historic	Isolate	Single hinged pocket tobacco tin	No
P-33-018481	—	Historic	Isolate	Vent hole evaporated milk can	No
P-33-018482	—	Prehistoric	Isolate	Chert edge modified flake	No
P-33-018610	—	Historic	Isolate	Hole-in-cap food can	No
P-33-018611	—	Historic	Isolate	Brown glass beer bottle	No
P-33-018612	—	Historic	Isolate	Broken clear glass wide-mouthed jar; Hazel Atlas	No
P-33-018613	—	Historic	Isolate	Complete brown glass crown cap beer bottle	No
P-33-019415	CA-RIV-9854H	Historic	Structure	Blythe-Eagle Mountain Transmission Line	Yes
P-33-020271	CA-RIV-10251	Historic	Site	Trash scatter	No
P-33-020273	—	Historic	Isolate	Alcohol bottle	No
P-33-020274	—	Historic	Isolate	Two beer cans	No
P-33-020275	—	Historic	Isolate	Whistle	No
P-33-020276	—	Historic	Isolate	Opened metal can	No
P-33-020277	—	Historic	Isolate	Single can	No
P-33-020278	—	Historic	Isolate	Single can	No
P-33-020279	—	Historic	Isolate	Single can	No
P-33-020280	—	Historic	Isolate	Complete, unopened, can of "Barrington Hall Soluble Coffee"	No
P-33-020424	—	Historic	Isolate	Ceramic scatter	No
P-33-020426	CA-RIV-10335H	Historic	Site	Can scatter of 43 hole-in-cap cans	No
P-33-020427	CA-RIV-10336	Historic	Site	WWII-era can scatter	No
P-33-020432	—	Historic	Isolate	Single steel beer can and a section of Lionel model train track	No
P-33-020433	—	Historic	Isolate	Two whole and one fragmentary brown glass 12-ounce beer bottles	No
P-33-020434	—	Prehistoric	Isolate	Ceramic pot sherd	No
P-33-020572	CA-RIV-10473H	Historic	Site	Historical survey marker (previously recorded; more accurate mapping)	No
P-33-020573	CA-RIV-10474	Historic	Structure	Segment of unpaved and gravel-paved, two-lane historical road	No

Table 3.6-1. Previously Recorded Cultural Resources within 1 Mile of the Project Area

Primary No.	Trinomial	Age	Type	Description	Within Project Area
P-33-022247	CA-RIV-11584H	Historic	Site	Set of seven historic-built berms	Yes
P-33-022250	—	Historic	Isolate	Single glass bottle fragment	No
P-33-022251	—	Historic	Isolate	Metal storage can with paint can-style lid	No
P-33-022252	—	Historic	Isolate	Single metal hole-in-top can with lap seam	No
P-33-022253	—	Prehistoric	Isolate	Piece of flaked white chert	Yes
P-33-022254	—	Historic	Isolate	Single metal vent-hole can	No
P-33-022255	—	Historic	Isolate	Single metal hole-in-top can with lap seam	No
P-33-022256	—	Historic	Isolate	Single metal hole-in-top can with lap seam	No
P-33-022257	—	Historic	Isolate	Single metal hole-in-top can with lap seam	No
P-33-022258	—	Historic	Isolate	Single metal hole-in-top can with lap seam	No
P-33-022259	—	Historic	Isolate	Single metal hole-in-top can with lap seam	No
P-33-022260	—	Historic	Isolate	Single pick opened metal can	No
P-33-022261	—	Historic	Isolate	Fragmented green glass Coca-Cola bottle	No
P-33-022262	—	Historic	Isolate	Fragmented green glass Coca-Cola bottle	No
P-33-022263	—	Historic	Isolate	Two fragmented green glass Coca-Cola bottle	No
P-33-022264	—	Historic	Isolate	Clear glass Coca-Cola bottle with a screw-on cap	No
P-33-022265	—	Historic	Isolate	Single metal hole-in-top can with lap seam	No
P-33-022266	—	Historic	Isolate	Single metal hole-in-top can with lap seam	No
P-33-022267	—	Historic	Isolate	Single metal hole-in-top can with lap seam	No
P-33-022268	—	Historic	Isolate	Metal hole-in-top can with lap seams and machine soldering	No
P-33-022269	—	Historic	Isolate	Metal knife cut hole-in-top can	No
P-33-022270	—	Historic	Isolate	Single metal hole-in-top can with lap seam	No
P-33-022271	—	Historic	Isolate	Metal hole-in-top can with lap seams	No
P-33-022272	—	Historic	Isolate	Punched open metal hole-in-top can	No
P-33-022273	—	Historic	Isolate	Two metal hole-in-top cans	No
P-33-022274	—	Historic	Isolate	Cut open metal hole-in-top can	No
P-33-022276	—	Historic	Isolate	Weathered green glass Coca-Cola bottle	No
P-33-022280	—	Historic	Isolate	Knife cut metal hole-in-top can	No
P-33-022282	—	Historic	Isolate	Single metal hole-in-top can with lap seam	No
P-33-022283	—	Historic	Isolate	Church key-opened round metal hole-in-top can	No

Table 3.6-1. Previously Recorded Cultural Resources within 1 Mile of the Project Area

Primary No.	Trinomial	Age	Type	Description	Within Project Area
P-33-024144	CA-RIV-11183	Historic	Structure	20-foot-wide paved road; Kaiser Road	No
P-33-025150	CA-RIV-12372H	Historic	Structure	State Route 177/Rice Road	No
P-33-028631	—	Prehistoric	Isolate	Red rhyolite secondary flake	No
P-33-029054	CA-RIV-12979	Historic	Site	Refuse scatter	No

Notes: DTC = Desert Training Center; WWII = World War II.

19-387-KJ-001H consists of a historic-period refuse scatter, rock feature, and set of tank tracks. The site is approximately 246 feet by 207 feet and consists of two concentrations of historic-period refuse, an irregular-shaped rock feature, and tank tracks. The refuse scatter contains approximately 30 cans and 50 fragments of bottle glass. Previously determined not eligible for listing in the NRHP, the resource does not appear to have been evaluated for listing on the CRHR.

P-33-018392 (CA-RIV-CA-RIV-11904) consists of an approximately 160 by 180 feet historic-period refuse scatter and associated tank tracks. Consisting of DTC-related munitions debris, comprised largely of container lids, and tank tracks, the site was previously evaluated and determined eligible for listing in the NRHP as part of the Desert Sunlight Solar Farm project in 2011. Previously determined eligible for the NRHP, the site then would be automatically eligible for listing on CRHR.

P-33-019415 (CA-RIV-9854H) consists of an approximately 1-mile-long segment of the historic-period 161 kV Blythe-Eagle Mountain Transmission Line. The linear resource (double pole construction with wood towers supporting three transmission lines and a graded dirt access road) was built in 1950 to bring electricity from Blythe to the townsite and mine at Eagle Mountain near Desert Center. The line provided 161 kV voltage; the highest voltage considered possible for a transmission line at the time of its construction. The resource was previously evaluated for listing on CRHR and recommended not eligible under all criteria.

P-33-022247 (CA-RIV-11584H) is an historic built-environment resource that consists of a set of seven earthen berms and trenches. The berms were built up using heavy machinery and are associated with nearby historic jojoba farming activities, although the original site record speculates that two of the seven berms could be associated with DTC activities. The berms range from 3,970 feet to 5,280 feet in length and are 4 to 10 feet tall. The berms are approximately 10 feet wide at the base. The resource does not appear to have been evaluated previously for listing on the CRHR.

19-387-WH-ISO-001H consists of two 105-millimeter Howitzer lids associated with the DTC/CAMA. The resource does not appear to have been evaluated for listing on the CRHR.

19-387-WH-ISO-002H is an isolated 105-millimeter Howitzer lid associated with the DTC/CAMA. The resource does not appear to have been evaluated for listing on the CRHR.

P-33-022253 is an isolated prehistoric piece of flaked white chert found in a sheet wash area that bisects an alluvial fan. The resource does not appear to have been evaluated for listing on the CRHR.

The Prehistoric Trails Network Cultural Landscape/Historic District (PTNCL) is a historic district that encompasses the entirety of the Project area. The District consists of prehistoric resources and landforms associated with the Halchidoma (or Coco-Maricopa) Trail (P-33-000053). The boundary of the PTNCL extends along the length of the historically known route of the trail, from where it begins near Blythe at the Colorado River, continuing to the west through the Chuckwalla Valley towards modern Los Angeles.

The PTNCL has been designated as a noncontiguous cultural landscape, eligible for listing in the CRHR under Criteria 1 and 4, that incorporates prehistoric archaeological sites associated with P-33-000053/CA-RIV-53T (CEC 2014). It can be broadly defined as having a width of approximately 10 miles that is centered along the I-10 corridor and within the viewshed of that vantage point. The Project sits within the defined boundaries of the PTNCL.

The Desert Training Center Cultural Landscape/Historic District (DTCCL) is a contiguous historic district that encompasses the entirety of the Project area. The district resource consists of a collection of historical archaeological sites associated with the DTC/C-AMA in the Chuckwalla Valley and on the Palo Verde Mesa. The DTCCL was previously determined eligible for listing on the CRHR under Criterion 4 for the Palen Solar Project (Riverside County Planning Department 2019:3.6-24).

Field Survey

The cultural resource field survey took place between September 12 and September 22, 2022. The survey crew was accompanied by a tribal participant from the Soboba Band of Luiseño Indians. Survey crews conducted an intensive pedestrian survey of parallel transects spaced no more than 15 meters apart. Crews inspected all landforms likely to possess archaeological resources, including areas with unusual contours, soil changes, distinctive vegetation patterns, surfaces features (e.g., road cuts, ditches, and stream cuts), and/or potential cultural markers. All resources previously documented within the Project area were attempted to be relocated and sites records were updated as necessary.

As a result of the fieldwork effort, 11 cultural resources were identified in the portion of the Project area under County jurisdiction. Four additional cultural resources were identified in the LFR portions of the Project area under BLM jurisdiction. In total, 15 cultural resources were identified in the Project area. These resources include two previously recorded historic built-environment resources, two previously records historic refuse scatters, two historic isolated artifacts, and nine newly discovered resources. The newly discovered resources include four historic-period archaeological sites, one historic-period built-environment resource, three isolated prehistoric artifacts, and one isolated historic-period artifact (Table 3.6-2). One previously recorded prehistoric isolate (P-33-022253) was not relocated.

None of the 15 cultural resources identified in the Project area are eligible for listing on the CRHR under any significance criteria. None of the 15 cultural resources are associated with events that have made a significant contribution to the broad patterns of California history (Criterion 1); they are not associated with the lives of persons important in California's past (Criterion 2); they do not embody the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values (Criterion 3); and they have not yet yielded, nor are likely to yield, information important to history or prehistory (Criterion 4).

Table 3.6-2. Cultural Resources Recorded in the Project Area

Primary or Temporary No.	Type	Description	CRHR Eligibility Recommendation
P-33-018392	Site	Historic refuse scatter and tank tracks	Not eligible under any CRHR criteria
P-33-019415	Structure	Blythe-Eagle Mountain transmission line (Built-Environment)	Not eligible under any CRHR criteria
P-33-022247	Structure	Earthen berms (Built-Environment)	Not eligible under any CRHR criteria
19-387-KJ-001H	Site	Historic rock pile, tank tracks, and refuse scatter	Not eligible under any CRHR criteria

Table 3.6-2. Cultural Resources Recorded in the Project Area

Primary or Temporary No.	Type	Description	CRHR Eligibility Recommendation
19-387-WH-ISO-001H	Isolate	Two historic Howitzer lids	Not eligible under any CRHR criteria
19-387-WH-ISO-002H	Isolate	Historic Howitzer lid	Not eligible under any CRHR criteria
22-0254-KM-03H	Site	Historic refuse scatter	Not eligible under any CRHR criteria
22-0254-KM-07H	Site	Historic refuse scatter	Not eligible under any CRHR criteria
22-0254-KM-08H	Structure	Transmission line segment (Built-Environment)	Not eligible under any CRHR criteria
22-0254-KM-09H	Site	Water pump remains	Not eligible under any CRHR criteria
22-0254-KM-10H	Site	Water pump remains	Not eligible under any CRHR criteria
22-0254-KM-IO-001	Isolate	Prehistoric chalcedony edge-modified flake	Not eligible under any CRHR criteria
22-0254-KM-IO-002H	Isolate	Historic ammunition casing	Not eligible under any CRHR criteria
22-0254-KM-IO-004	Isolate	Prehistoric fine-grained black basalt secondary flake	Not eligible under any CRHR criteria
22-0254-KM-IO-005	Isolate	Prehistoric blue-gray felsic volcanic secondary flake	Not eligible under any CRHR criteria
—	District	Prehistoric Trails Network Cultural Landscape (PTNCL)	Eligible under CRHR Criteria 1 and 4
—	District	Desert Training Center Cultural Landscape (DTCCL)	Eligible under CRHR Criterion 4

Notes: CRHR = California Register of Historical Resources.

Archaeological Sites

19-387-KJ-001H is a historic-period refuse scatter, rock feature, and set of tank tracks within the proposed Project's direct area of potential effect (APE). The site is approximately 246 feet by 207 feet and consists of two concentrations of historic-period refuse, an irregular-shaped rock feature, and tank tracks. The scatter appears to largely be surficial and its location on weakly-developed desert pavement suggests buried deposits are unlikely. The presence of bimetal cans suggests that the scatter dates to the post-WWII era. Resource 19-387-KJ-001H is recommended not eligible for inclusion in the CRHR.

P-33-018392 (CA-RIV-CA-RIV-11904) consists of an approximately 160 by 180 feet historic-period refuse scatter, composed of two concentrations, and associated tank tracks. Upon revisit, surveyors found that the site's conditions have changed since previous revisits, appearing more visibly and heavily degraded. Previously determined eligible for inclusion in the NRHP/CRHR under Criterion A/1, the resource is compromised to a degree that it does not retain the characteristics that would permit it to be considered eligible for listing in the NRHP/CRHR under Criterion A/1. Additionally, the resource is recommended not eligible for inclusion in the CRHR under any other criteria, 2-4.

22-0254-KM-03H is a historic-period refuse scatter on the edge of a fallow agricultural field. The can scatter appears to represent a variety of time periods, most of which post-date 1945. The site is in poor condition with many of the cans appearing to have been displaced by agricultural activities. The scatter appears to largely be surficial, with no evidence found to suggest there are substantial buried deposits. Resource 22-0254-KM-03H is recommended not eligible for inclusion in the CRHR.

22-0254-KM-07H is a historic-period household refuse scatter that consists of sanitary cans recycled and modified for use as planters. Although the sanitary cans are of mid-twentieth century manufacture, the date of their modification to planters cannot be ascertained. The scatter is within a fallow jojoba field adjacent to a series of earthen berms (P-22-022247). The scatter appears to largely be surficial, with no evidence found to suggest there are substantial buried deposits. Resource 22-0254-KM-07H is recommended not eligible for inclusion in the CRHR.

22-0254-KM-09H represents the remains of a mid-twentieth century water pump associated with abandoned jojoba farms. The site consists of a roughly L-shaped concrete foundation that exhibits water tank stains and impressions, a capped well-head, a 9-inch-diameter polyvinyl chloride (PVC) pipe extending from the ground at a 45-degree angle, and other PVC and metal pipes and fittings surrounding the foundation. An adjacent historical transmission line (Resource 22-0254-08H) appears to have supplied power to the water pump. No markings or datable artifacts were identified at the site, but the water pump is mapped on the 1963 Coxcomb Mountains, California, U.S. Geological Survey topographic map. The site is in fair condition with little potential to contain subsurface remains. Site 22-0254-KM-09H is recommended not eligible for inclusion in the CRHR.

22-0254-KM-10H consists of the remnants of a mid-twentieth century water pump associated with the now abandoned jojoba farms. The site consists of a roughly L-shaped concrete foundation surrounded by galvanized fence posts with an "AURORA / VERTI-LINE" pump near the foundation's southwest corner. Other components include a 9-inch-diameter PVC pipe riser/valve extending from the ground on the south side of the foundation; an approximately 15-foot-tall wooden utility pole with ceramic insulator; and a 7-foot-tall, 6-inch-diameter metal pole. Other PVC and metal pipes, fittings, electric fuses and control boxes, milled wood, and particle board surround the foundation but do not appear historical. An adjacent historical transmission line (Resource 22-0254-08H) appears to have supplied power to the water pump. No markings or datable artifacts were identified at the site, but the water pump is mapped on the 1963 Coxcomb Mountains, California, U.S. Geological Survey topographic map. The site is in poor condition with little potential to contain subsurface remains. Site 22-0254-KM-10H is recommended not eligible for inclusion in the CRHR.

Isolated Artifacts

A total of six isolated artifacts were documented in the Project area. The isolated artifacts include three prehistoric flakes and one historic-period ammunition casing. Isolated occurrences are generally considered not eligible for inclusion in the CRHR unless they possess unique or substantial qualities to warrant their listing. All isolated occurrences are recommended not eligible for inclusion in the CRHR under any criterion.

Historic Built-Environment Resources

P-33-019415 (CA-RIV-9854H) consists of an approximately 1-mile-long segment of the historic-period 161 kV Blythe-Eagle Mountain Transmission Line. The linear resource (double pole construction with wood towers supporting three transmission lines and a graded dirt access road) was built in 1950 to bring electricity from Blythe to the townsite and mine at Eagle Mountain near Desert Center. The line provided 161 kV voltage; the highest voltage considered possible for a transmission line at the time of its construction. Resource P-33-019415 was previously evaluated for listing on the CRHR in 2011 and recommended not eligible under all criteria. The California Public Utilities Commission concurred with the recommendation in their certification of the Environmental Impact Statement prepared for the Desert Sunlight Solar Project. The current study indicates that the resource has not changed significantly since 2011 and the previous determination remains valid. P-33-019415 is not eligible for listing on the CRHR.

P-33-022247 (CA-RIV-11584H) is an historic built-environment resource that consists of a set of seven earthen berms and trenches. The berms were built up using heavy machinery and are associated with nearby historic jojoba farming activities, although the original site record speculates that two of the seven berms could be associated with DTC activities. The berms range from 3,970 feet to 5,280 feet in length and are 4 to 10 feet tall. The berms are approximately 10 feet wide at the base. Resource P-33-022247 does not appear to have been evaluated previously for listing on the CRHR and is recommended not eligible for inclusion in the CRHR because it does not meet any of the CRHR criteria 1 through 4. For further detail, see Appendix I.

22-0254-KM-08H is a historic-period transmission line that is constructed of single wooden T-top poles. Three segments of the transmission line were recorded within the Project area. Segment 1 is 5,492 feet long and runs parallel to P-33-019415 in a northwest–southeast direction across the Project area, extends beyond the Project area, and appears to provide electricity to various locations in the Project vicinity. Segment 2 measures 3,048 feet in length and spurs off to the west from Segment 1. This segment appears to supply power to a pump station (Site 22-0254-KM-09H) associated with the operation of the historic-period jojoba farm at the segment's western terminus. Segment 3 originates at Segment 2 and appears to supply power to a pump station (22-0254-KM-10H) associated with the operation of the historic-period jojoba farm at the segment's southern terminus. Resource 22-0254-KM-08H is recommended not eligible for inclusion in the CRHR.

Historic Districts

The Prehistoric Trails Network Cultural Landscape/Historic District (PTNCL) is a historic district that encompasses the entirety of the Project area. The District consists of prehistoric resources and landforms associated with the Halchidoma (or Coco-Maricopa) Trail (P-33-000053). The boundary of the PTNCL extends along the length of the historically known route of the trail, from where it begins near Blythe at the Colorado River, continuing to the west through the Chuckwalla Valley towards modern Los Angeles.

The PTNCL has been designated as a noncontiguous cultural landscape that incorporates prehistoric archaeological sites associated with P-33-000053/CA-RIV-53T (CEC 2014). It can be broadly defined as having a width of approximately 10 miles that is centered along the I-10 corridor and within the viewshed of that vantage point. The Project sits within the defined boundaries of the PTNCL.

PTNCL site types are divided into three categories: destinations, trails, and trail-associated sites or features (RWQCB 2021:C-27). Destinations are defined primarily as water sources, but also include residential, religious, and resource-collection sites (Bagwell and Bastian 2010). Trails are linear alignments that were either created by the repeated passage of feet or by formal construction. Trail-associated sites or features may include concentrations of ceramics/pot drops, cleared circles, rock rings, rock clusters, rock cairns, rock alignments, petroglyphs, and geoglyphs. In places where the trail itself is not preserved, its route may be approximately traced by distinctive patterns of the same trail-associated sites and features listed above. The period of significance is the entire prehistoric and early historic periods. The thematic associations include travel, trade, ritual, and resource exploitation, particularly the collection of stone tool and ground stone raw materials. The PTNCL was previously determined eligible for listing on the CRHR under Criteria 1 and 4 for the Palen Solar Power Project (CEC 2014). No trail segments have been documented or known to exist within the Project area. No trail associated sites or features have been documented within the Project area. No destination sites, such as water sources, residential, religious, and resource-collection sites, have been documented or known to existing with the Project area. No cultural remains associated with the PTNCL have been documented in the Project's Cultural Resources Study Area. However, the resources identified include isolated flaked stone artifacts and isolated ceramic sherds lacking diagnostic constituents. These archaeological resources broadly relate to thematic

associations but are not directly associated with any documented constituents of the PTNCL. The closest documented constituents in clear association with of the PTNCL lie 3.5 miles southeast of the Project Area, outside the areas of direct and indirect impacts, and include rock rings, rock cairns, and cleared circles. Other documented constituents of the PTNCL would include trail segments/ linear alignments, however, none have been located within the area of direct or indirect impacts.

The Desert Training Center Cultural Landscape/Historic District (DTCCL) is a contiguous historic district that encompasses the entirety of the Project area. Five resources (P-33-018392, P-33-0022247, 19-387-KJ-001H, 19-387-WH-ISO-001H, and 19-387-WH-ISO-002H) located within the Project's direct impact area are associated with the DTCCL. The district resource consists of a collection of historical archaeological sites associated with the DTC/C-AMA in the Chuckwalla Valley and on the Palo Verde Mesa. The significance period is preliminarily defined as 1942–1944. The DTC/C-AMA was the largest and the only such military training facility in American military history. The BLM is in the process of preparing a NRHP Multiple Property Documentation Form (NPS 10-900-b) for DTC/C-AMA historic properties. In this draft document, the themes, trends, and patterns of history shared by the DTC/C-AMA properties are organized into historic contexts and the property types that represent those historic contexts are defined. The relevant themes include U.S. Preparation for WWII, U.S. Military Training, Gen. George S. Patton. Jr., and Gen. Walton Walker. Depots, airfields, ranges, bivouacs, maneuver areas, camps, and hospitals are among some of the property types included in the district. Most property types associated with the DTC/C-AMA, exist today as archaeological resources, such as refuse deposits, tank tracks, foxholes, and bivouacs.

The DTCCL was previously determined eligible for listing on the CRHR under Criterion 4 for the Palen Solar Project (Riverside County Planning Department 2019:3.6-24). All five historic-era resources in the Project area associated with the DTCCL listed above have been previously determined not eligible for listing in the NRHP (SHPO 2021, 2024).

3.6.4 Impact Analysis

Criteria for Determining Significance

Section V of Appendix G to the CEQA Guidelines addresses typical adverse changes in the significance of a historical resource and/or archaeological resource as defined under California Code of Regulations, Title 14, Chapter 3, Section 15064.5.

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in California Code of Regulations, Section 15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to California Code of Regulations, Section 15064.5?

c) Disturb any human remains, including those interred outside of formal cemeteries?

Significance thresholds are set forth in the County's Environmental Assessment Checklist are derived from Section V of Appendix G to the State CEQA Guidelines (listed above), and state that the proposed project would have a significant impact on cultural resources if construction and/or operation of the project would:

a) Alter or destroy a historic site.

b) Cause a substantial adverse change in the significance of a historical resource, pursuant to California Code of Regulations, Section 15064.5.

c) Alter or destroy an archaeological site.

d) Cause a substantial adverse change in the significance of an archaeological resource, pursuant to California Code of Regulations, Section 15064.5.

e) Disturb any human remains, including those interred outside of formal cemeteries.

Under all of these criteria, adverse changes and impacts are the following:

- Physical, visual, or audible disturbances resulting from construction and development that would affect the integrity of a resource or the qualities that make it eligible for the CRHR
- Exposure of resources to vandalism or unauthorized collecting
- A substantial increase in the potential for erosion or other natural processes that could affect resources
- Neglect of a resource that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to a Native American tribe
- Transfer, lease, or sale of a resource out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the resource's historic significance

Environmental Impacts

This section analyzes impacts to cultural resources identified within 1,082 acres of private land that comprise the Project area. This section also includes an examination of the Project's cultural resources impacts per the County's Environmental Assessment Checklist identified above. Evaluations for NRHP eligibility and effect will be addressed in the cultural resources technical report in support of the National Environmental Policy Act (NEPA) process.

This analysis considers both direct and indirect impacts to cultural resources.

- **Direct impacts** to cultural resources are those associated with Project construction, operation, maintenance, and decommissioning. Construction usually entails surface and subsurface ground disturbance, and direct impacts to cultural resources may result from the immediate disturbance of the deposits, whether from vegetation removal, vehicle travel over the surface, earth-moving activities, excavation, or demolition of overlying structures. Construction can have direct impacts on historical built-environment resources when those buildings or structures must be removed to make way for new buildings or structures or when the vibrations of construction impair the stability of historical buildings or structures nearby. New buildings or structures can have direct impacts on historical built-environment resources when the new buildings or structures are stylistically incompatible with their neighbors and the setting, or when the new buildings or structures produce a harmful effect to the materials or structural integrity of the historical built environment resources, such as emissions or vibrations.
- **Indirect impacts** to cultural resources are those that may 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. Similarly, historical built environment resources can suffer indirect impacts when Project construction creates potentially damaging noise and vibration, improved accessibility and vandalism, or greater weather exposure. The long-term presence of solar panels, transmission lines, or towers also has the potential to result in indirect visual impacts to significant cultural resources where setting is a key contributor to the property's importance.

Additionally, unknown and potentially significant buried resources could be inadvertently unearthed during ground-disturbing activities during construction and decommissioning. Destruction of potentially significant cultural resources could be a significant impact.

Threshold a: Would the project alter or destroy a historic site?

LESS THAN SIGNIFICANT. As described under the subheadings "Records Searches" and "Field Survey" above, there are no known CRHR-eligible historical resources (i.e., historic-period built environment resources) in the Project area. Therefore, the Project would not alter or destroy a historic site. As such, impacts would be less than significant.

Threshold b: Would the project cause a substantial adverse change in the significance of a historical resource, pursuant to California Code of Regulations, Section 15064.5?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. As described above in Section 3.6.2, Environmental Setting, there are two known historical resources within the Project area. Specifically, the Project area lies within the boundaries of two CRHR-eligible historic districts (PTNCL and DTCCL).

Prehistoric archaeological remains identified in the Project area would be associated with the PTNCL if they were trail-associated sites or features. The prehistoric remains identified include isolated lithics and ceramics that are not indicative of projectile point or diagnostic tool manufacture. While lithic and ceramic remains broadly relate to PTNCL themes surrounding resource procurement and manufacture, these resource types are ubiquitous throughout the Chuckwalla Valley. The prehistoric isolates located within the Project area are not associated with any character defining archaeological resources such as petroglyphs, pot drops, or webs of intersecting trails (CEC 2014). The archaeological resources are not individually CRHR-eligible and do not contribute to the historical significance of the PTNCL. Due to the widespread occurrences of the resource types and because of their lack of association with character defining features of the PTNCL, removal of these isolates would not alter the PTNCL's ability to convey its historical significance and would not constitute and an adverse impact to the PTNCL.

Five resources associated with the DTCCL are mapped within the Project area, none of which have been determined eligible for individual listing in the CRHR under any criteria. Not eligible for the CRHR in their own right under any criteria, these resources are not subject to impacts individually. Additionally, due the widespread occurrences of their resource types, their removal would not alter the DTCCL's ability to convey its historical significance and would not constitute an adverse impact to the DTCCL.

The Project site has the potential to contain previously unknown historical resources, specifically in the form of archaeological deposits that may underlie the ground surface. Should buried archaeological deposits be uncovered during project implementation, and should such resources qualify as historical resources under CEQA, they could be subject to significant impacts. Impacts to any newly identified resources would be addressed by the implementation of Mitigation Measures (MM) CUL-1 through MM CUL-7, which would reduce these impacts to be less than significant.

Threshold c: Would the project alter or destroy an archaeological site?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. As described in Section 3.6.2 above, there are no known CRHR-eligible archaeological sites in the Project area. Therefore, the Project would not alter or destroy an archaeological site.

The Project site has the potential to contain previously unknown archaeological sites that may underlie the ground surface. Should buried archaeological sites be uncovered during project implementation, and should such resources qualify as historical resources under CEQA, they could be subject to significant impacts. Impacts to any newly identified sites would be addressed by the implementation of Mitigation Measures (MM) CUL-1 through MM CUL-7, which would reduce these impacts to be less than significant

Threshold d: Would the project cause a substantial adverse change in the significance of an archaeological resource, pursuant to California Code of Regulations, Section 15064.5?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. As described in Section 3.6.2 above, there are two known CRHR-eligible archaeological resources in the Project area. The Project area lies within the boundaries of two CRHR-eligible historic, archaeological districts (PTNCL and DTCCL).

Prehistoric archaeological remains identified in the Project area would be associated with the PTNCL if they were trail-associated sites or features. The prehistoric remains identified include isolated lithics and ceramics that are not indicative of projectile point or diagnostic tool manufacture. While lithic and ceramic remains broadly relate to PTNCL themes surrounding resource procurement and manufacture, these resource types are ubiquitous throughout the Chuckwalla Valley. The prehistoric isolates located within the Project area are not associated with any character defining archaeological resources such as petroglyphs, pot drops, or webs of intersecting trails (CEC 2014). The archaeological resources are not individually CRHR-eligible and do not contribute to the historical significance of the PTNCL. Due to the widespread occurrences of the archaeological resource types and because of their lack of association with character defining features of the PTNCL, removal of these isolates would not alter the PTNCL's ability to convey its historical significance and would not constitute and an adverse impact to the PTNCL.

Five resources associated with the DTCCL are mapped within the Project area, none of which have been determined eligible for individual listing in the CRHR under any criteria. Not eligible for the CRHR in their own right under any criteria, these resources are not subject to impacts individually. Additionally, due the widespread occurrences of their resource types, their removal would not alter the DTCCL's ability to convey its historical significance and would not constitute an adverse impact to the DTCCL.

No unique archaeological resources have been identified in the Project area, as none of the archaeological remains identified meet any of the criteria to be considered a unique archaeological resource. Due their widespread occurrence across the region and lack of clear association with significant national or state-wide events, none of the 12 archaeological resources identified appear to contain, information necessary to answer important scientific research questions, be directly associated with a scientifically recognized important prehistoric or historic event or person, and/or exhibit a special and particular quality such as being the oldest or best available example of its type.

The Project site has the potential to contain previously unknown archaeological deposits that may underlie the ground surface. Should buried archaeological deposits be uncovered during project implementation, and should such archaeological resources qualify as historical resources or unique archaeological resources under CEQA, they could be subject to significant impacts. Impacts to any newly identified archaeological resources would be addressed by the implementation of Mitigation Measures (MM) CUL-1 through MM CUL-7, which would reduce these impacts to be less than significant.

Threshold e. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. A review of the archaeological record searches and results of recent field surveys did not identify any human remains in the Project area. However, previously unidentified human remains could be found and potentially impacted (directly or indirectly) during Project construction. If human remains or related resources are discovered, such resources shall be treated in accordance with state and local regulations and guidelines that govern the disclosure, recovery, relocation, and preservation of human remains (14 CCR 15064.5[e]). With incorporation of MM CUL-6, any potential impacts on human remains would be less than significant.

Cumulative Impacts

Geographic Scope. Cultural cumulative impacts include the Project's impacts and those likely to occur as a result of other existing, proposed, and reasonably foreseeable projects (refer to Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario). These projects all involved or will involve grading or other excavation activities that have the potential to impact cultural resources. This geographic scope was selected because the archaeological and historical resources within this area are expected to be similar to those that occur on the Project site due to their proximity and because similar environments, landforms, and hydrology would result in similar land use and, thus, site types.

Cumulative Impacts. As discussed under Threshold "a," the Project would not alter or destroy a historic site, either directly or indirectly. This is because there are no known significant historical built environment resources in the Project area. Therefore, the Project's impacts combined with those of nearby projects would not result in a cumulatively considerable or significant impact on historic sites.

As discussed under Threshold "b," the Project would not cause a substantial adverse change in the significance of a known historical resource, either directly or indirectly. Resources located within the Project's direct or indirect impact area are not associated with any sites or trail segments of the PTNCL historical resource and do not contribute to the historical significance of the PTNCL. Due to their widespread occurrences, removal of these resources would not alter the PTNCL's ability to convey its historical significance. Similarly, removal of sites and isolates associated with the DTCCL historical resource would not alter the district's ability to convey its historical significance. However, the addition of more industrial components to the Chuckwalla Valley as a result of the Project contributes in a small but measurable way to create a visual intrusion upon the setting of the PTNCL, particularly from character defining features within the landscape. To mitigate such visual impacts, the Project would implement Mitigation Measures CUL-1 through MM CUL-7 and MM VIS-1 (see Section 3.2.4), which would avoid and minimize impacts to archaeological resources and employ design elements that reduce the Project's visual contrast to characteristics of the landscape, reducing project-level impacts to less than significant. Cumulative projects would likely be required to implement similar measures. However, while the implementation of these mitigation measures helps to reduce the Project's contribution to adverse visual impacts upon the resource, seen in combination with past projects, other current projects, and probable future projects, cumulative visual impacts to the PTNCL would remain significant, and the Project's incremental contribution would be cumulatively considerable.

As discussed under Threshold "c," the Project would not alter or destroy an archaeological site, either directly or indirectly. This is because there are no known significant archaeological sites in the Project area. Therefore, the Project's impacts combined with those of nearby projects would not result in a cumulatively considerable or significant impact on archaeological sites.

As discussed under Threshold "d," the Project would not cause a substantial adverse change in the significance of a known archaeological resource, either directly or indirectly. Archaeological remains located within the Project's direct and indirect impact areas are not associated with any sites or trail segments of the PTNCL archaeological resource and do not contribute to the historical significance of the PTNCL. Due to their widespread occurrences, removal of these resources would not alter the PTNCL's ability to convey its historical significance. Similarly, removal of sites and isolates associated with the DTCCL archaeological resource would not alter the district's ability to convey its historical significance. However, the addition of more industrial components to the Chuckwalla Valley as a result of the Project contributes in a small but measurable way to create a visual intrusion upon the setting of the PTNCL as an archaeological resource, particularly from character defining features within the landscape. To mitigate such visual impacts, the Project would implement Mitigation Measures CUL-1 through MM CUL-7 and MM

VIS-1, which would avoid and minimize impacts to archaeological resources and employ design elements that reduce the Project's visual contrast to characteristics of the landscape, reducing project-level impacts to less than significant. Cumulative projects would likely be required to implement similar measures. However, while the implementation of these mitigation measures helps to reduce the Project's contribution to adverse visual impacts upon the resource, seen in combination with past projects, other current projects, and probable future projects, cumulative visual impacts to the PTNCL would remain significant, and the Project's incremental contribution would be cumulatively considerable.

As discussed under Threshold "e," the Project would not disturb any human remains, including those interred outside of dedicated cemeteries. This is because a review of the archaeological record search and results of recent surveys did not identify any human remains, burial sites, or cemeteries in the Project area. If human remains or related resources are discovered, such resources shall be treated in accordance with state and local regulations and guidelines that govern the disclosure, recovery, relocation, and preservation of human remains (14 CCR 15064.5[e]) and in accordance with relevant mitigation measures. Therefore, the Project's impacts combined with those of nearby projects would not result in a cumulatively considerable or significant impact on human remains, including those interred outside of dedicated cemeteries.

3.6.5 Mitigation Measures

The following Mitigation Measures were developed to substantially lessen the potentially significant effects to cultural resources that could result in the event of an unanticipated discovery cultural or archaeological resources or human remains.

MM CUL-1 **Project Archaeologist.** Prior to issuance of grading permits: The applicant/developer shall provide evidence to the County of Riverside Planning Department that a County certified professional archaeologist (Project Archaeologist) has been contracted to implement a Cultural Resource Monitoring Program (CRMP). A Cultural Resource Monitoring Plan shall be developed that addresses the details of all activities and provides procedures that must be followed in order to reduce the impacts to cultural and historic resources to a level that is less than significant as well as address potential impacts to undiscovered buried archaeological resources associated with this project. A fully executed copy of the contract and a wet-signed copy of the Monitoring Plan shall be provided to the County Archaeologist to ensure compliance with this condition of approval.

Working directly under the Project Archaeologist, an adequate number of qualified Archaeological Monitors shall be present to ensure that all earth moving activities are observed and shall be on-site during all grading activities for areas to be monitored including off-site improvements. Inspections will vary based on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features. The frequency and location of inspections will be determined by the Project Archaeologist.

MM CUL-2 **Develop and Implement Cultural Resources Environmental Awareness Training.** Prior to issuance of a Notice to Proceed by the County and for the duration of ground disturbance (as defined in MM CUL-4), the Applicant shall provide Worker Environmental Awareness Program (WEAP) training to all workers prior to beginning work at the Project site. The training shall be prepared by the Cultural Resources Specialist (CRS), may be conducted by any member of the archaeological team, and may be presented in the form of an annotated and narrated digital slide show. Tribal representatives will be given the opportunity to participate in the WEAP training. The CRS shall be available (by telephone

or in person) to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended, but must be resumed if ground disturbance resumes. Training shall include the following:

- A discussion of applicable laws and penalties under the law
- Samples or visuals of artifacts that might be found in the Project vicinity
- A brief review of the cultural sensitivity of the Project and the surrounding area
- A discussion of what such artifacts may look like when partially buried, or wholly buried and then freshly exposed
- A discussion of what prehistoric and historical archaeological deposits look like at the surface and when exposed during construction, and the range of variation in the appearance of such deposits
- Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery and shall contact their supervisor and the CRS or supervisory cultural resource field staff, and that redirection of work would be determined by the construction supervisor and the CRS.
- Instruction that the CRS, alternate CRS, and supervisory cultural resource field staff have the authority to halt ground disturbance in the area of a discovery to an extent sufficient to ensure that the resource is protected from further impacts, as determined by the CRS
- An informational brochure that identifies reporting procedures in the event of a discovery
- An acknowledgment form signed by each worker indicating that they have received the training
- A sticker that shall be placed on hard hats indicating that WEAP training has been completed

This is a mandatory training, and all construction personnel must attend prior to beginning work on the Project site. A copy of the sign-in sheet shall be kept ensuring compliance with this measure. No ground disturbance shall occur prior to implementation of the WEAP training unless such activities are specifically approved by the County.

MM CUL-3 **Cultural Resources Monitoring and Treatment Plan.** Prior to the start of construction, the Cultural Resources Specialist (CRS) shall develop a Cultural Resources Monitoring and Treatment Plan (CRMTP) that addresses the details of all activities and provides procedures that must be followed to reduce the potential impacts to undiscovered buried archaeological resources associated with the Project.

The CRMTP shall describe a program for avoiding and monitoring undiscovered National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) eligible cultural resources that can be avoided during Project construction. The CRMTP may require that protective fencing or other markers, at the discretion of the County, be erected and maintained to protect these resources from inadvertent adverse effects during construction. The CRMTP shall also include maps and narrative discussion of areas considered to be of high sensitivity for discovery of buried archaeological resources, if any. The CRMTP shall detail provisions for monitoring construction activities in these high-

sensitivity areas. It shall also detail the methods, consultation procedures, and timelines for addressing all post-review discoveries.

Pursuant to 14 C.C.R 15126.4(b), the CRMTP shall specify that preservation in place is the preferred method of mitigating impacts in the event of an unanticipated discovery of an archaeological site determined to be a historical resource. Potential means of preservation in place include but are not limited to:

1) Planning construction to avoid the archaeological site
2) Deeding the archaeological site to a permanent conservation easement
3) Capping or covering the archaeological site with a layer of chemically stable soil before building facilities on it; or
4) Incorporating the site within parks, green space, or other open space.

When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken, as further specified below.

The CRMTP shall identify person(s) expected to perform any monitoring tasks, their responsibilities, and the reporting relationships between Project construction management and the mitigation and monitoring team. It shall also specify monitoring reporting and what forms/documentation needs to be completed daily during monitoring.

The CRS shall manage all monitoring, mitigation, curation, and reporting activities under the CRMTP. The Applicant shall ensure that the CRS makes recommendations regarding the eligibility for listing in the NRHP and CRHR of any cultural resources that are newly discovered or that may be affected in an unanticipated manner.

The CRMTP shall address the authority to halt ground disturbance during construction. If a cultural resource over 50 years of age is found, or impacts to such a resource can be anticipated, ground disturbance shall be halted or redirected in the immediate vicinity of the discovery sufficient to ensure that the resource is protected from further impacts. Monitoring and reporting shall continue during the Project's ground-disturbing activities elsewhere. Additional procedures regarding halting ground disturbance to address a post-review discovery or unanticipated effects shall be described in the CRMTP.

The CRMTP shall include, but not be limited to, the following elements, and shall be consistent with all other mitigation measures contained in this document:

- Preparation and implementation of a data recovery plan to be used to guide the data recovery and disposition of any historical or Tribal Cultural Resource (as defined under the California Environmental Quality Act) that may be encountered during construction and that cannot be avoided or preserved in place. The data recovery plan shall include, minimally, a regional cultural setting, appropriate regional research questions, field and laboratory methods for the data recovery effort, and analysis and reporting requirements. The data recovery plan shall include treatment measures that focus on recovering information related to tribal values as they are conveyed through archaeological data. The treatment measures shall be developed through consultation among traditionally culturally affiliated tribes and the County. Treatment measures

may include detailed resource documentation, preparation of interpretative or educational materials, reburial of artifacts that convey tribal values, or other measures identified in coordination with the tribes and the landowner.

Following implementation of data recovery and other treatment protocols, a report documenting the methods and results of the data recovery and treatment program shall be prepared by a Secretary of the Interior-qualified archaeologist and shall be submitted to the County for review and approval.

MM CUL-4 **Archaeological Monitoring.** A qualified lead archaeological monitor that meets the Secretary of the Interior's Professional Qualifications Standards (as defined in Title 36 Code of Federal Regulations Part 61), shall be present for initial grading activities in undisturbed soil. If additional archaeological monitors are needed, they do not need to have the same qualifications, but may work under the supervision of the lead archaeological monitor; in such cases the lead archaeological monitor must be on site. Daily monitoring forms will be completed by the archaeological monitor(s) and the CRS will be responsible for retaining, editing, and compiling them. Agencies will be provided with a compilation of the daily reports monthly. The lead archaeological monitor will have the authority to increase or decrease the monitoring effort should the monitoring results indicate that a change is warranted.

MM CUL-5 **Unanticipated Resources.** The developer/permit holder or any successor in interest shall comply with the following for the life of this permit.

If during ground disturbance activities, unanticipated cultural resources* are discovered, the following procedures shall be followed:

All ground disturbance activities within 100 feet of the discovered cultural resource shall be halted and the applicant shall call the County Archaeologist immediately upon discovery of the cultural resource. A meeting shall be convened between the developer, the project archaeologist**, the Native American tribal representative (or other appropriate ethnic/cultural group representative), and the County Archaeologist to discuss the significance of the find. At the meeting with the aforementioned parties, a decision is to be made, with the concurrence of the County Archaeologist, as to the appropriate treatment (documentation, recovery, avoidance, etc.) for the cultural resource. Resource evaluations shall be limited to nondestructive analysis.

Further ground disturbance shall not resume within the area of the discovery until the appropriate treatment has been accomplished.

* A cultural resource site is defined, for this condition, as being a feature and/or three or more artifacts in close association with each other.

** If not already employed by the project developer, a County approved archaeologist shall be employed by the project developer to assess the significance of the cultural resource, attend the meeting described above, and continue monitoring of all future site grading activities as necessary.

MM CUL-6 **Human Remains.** If human remains are found on this site, the developer/permit holder or any successor in interest shall comply with State Health and Safety Code Section 7050.5.

MM CUL-7 **Phase IV Monitoring Report.** Prior to Grading Permit Final Inspection, a Phase IV Cultural Resources Monitoring Report shall be submitted that complies with the Riverside County Planning Department's requirements for such reports for all ground disturbing activities associated with this grading permit. The report shall follow the County of Riverside Planning Department Cultural Resources (Archaeological) Investigations Standard Scopes of Work posted on the TLMA website. The report shall include results of any feature relocation or residue analysis required as well as evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting and evidence that any artifacts have been treated in accordance to procedures stipulated in the Cultural Resources Management Plan.

3.6.6 References

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3.7 Energy

This section includes an analysis of the impacts on energy that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning the proposed project (Project). The analysis in this section describes the applicable regulations, provides information on existing conditions that influence energy, identifies the criteria used for determining the significance of environmental impacts, and describes the Project's potential impacts to energy.

3.7.1 Regulatory Framework

Federal Laws, Regulations, and Policies

Infrastructure Investment and Jobs Act of 2021

The Infrastructure Investment and Jobs Act included $65 billion in funding to support the development and deployment of clean energy technologies and to construct thousands of miles of new transmission lines needed for the expansion of renewables and clean energy in order to speed the transition to a zero-carbon electricity sector.

Federal Energy Policy and Conservation Act

In 1975, Congress enacted the Federal Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration (NHTSA) is responsible for establishing vehicle fuel economy standards. In 2020, fuel economy standards for passenger cars and light trucks were approved for model years 2021 through 2026 (85 FR 24174-25278). Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

Energy Policy Act of 2005 and Energy Independence and Security Act of 2007

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) was signed into law. In addition to setting increased corporate average fuel economy standards for motor vehicles, the EISA includes the following other provisions related to energy efficiency:

- The EISA revised the renewable fuel standard (RFS) established by the Energy Policy Act of 2005 (Section 202)
- Appliance and lighting efficiency standards (Sections 301–325)
- Building energy efficiency (Sections 411–441)

The RFS established the first federal renewable fuel volume mandate in the United States, requiring ever-increasing levels of renewable fuels to replace petroleum (EPA 2022). The U.S. Environmental Protection Agency (EPA) is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

As required under the act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the EISA, the RFS program was expanded in several key ways that laid the foundation for achieving significant reductions of greenhouse gas (GHG) emissions through

the use of renewable fuels, for reducing imported petroleum, and for encouraging the development and expansion of our nation's renewable fuels sector. The updated program (RFS2) includes the following:

- EISA expanded the RFS program to include diesel in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel and set separate volume requirements for each one.
- EISA required EPA to apply life cycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Additional provisions of the EISA address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."

Federal Renewable Energy Mandates

Executive Order (EO) 13212 (May 18, 2001) mandated that "agencies act expediently and in a manner consistent with applicable laws to increase the production and transmission of energy in a safe and environmentally sound manner."

EO 13783 (March 28, 2017) promoted "clean and safe development of our Nation's vast energy resources, while at the same time avoiding regulatory burdens that unnecessarily encumber energy production, constrain economic growth, and prevent job creation."

EO 13807 (August 15, 2017) and **Secretary's Order 3355** (August 31, 2017) established policy to prioritize infrastructure projects and streamline the environmental review process.

EO 14008 (January 27, 2021) established the goal to achieve a carbon pollution-free electricity sector no later than 2035.

State Laws, Regulations, and Policies

CEQA

In accordance with the CEQA Guidelines and Appendix F, Energy Conservation, of the CEQA Guidelines, in order to ensure that energy implications are considered in project decisions, environmental impact reports must include a discussion of the potential significant energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the CEQA Guidelines provides a list of energy-related topics that should be analyzed in an environmental impact report. In addition, while not described as significance thresholds for determining the significance of impacts related to energy, Appendix F of the CEQA Guidelines provides the following topics that the lead agency may consider in the energy analysis in an environmental impact report, where topics are applicable or relevant to the project:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project's life cycle including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed;
- The effects of the project on local and regional energy supplies and on requirements for additional capacity;
- The effects of the project on peak and base period demands for electricity and other forms of energy;

- The degree to which the project complies with existing energy standards;
- The effects of the project on energy resources; and,
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

Assembly Bill 32 and Senate Bill 32

In 2006, the State Legislature enacted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020. In 2016, the State Legislature enacted Senate Bill (SB) 32, which extended the horizon year of the state's codified GHG reduction planning targets from 2020 to 2030, requiring California to reduce its GHG emissions to 40% below 1990 levels by 2030. In accordance with AB 32 and SB 32, the California Air Resources Board (CARB) prepares scoping plans to guide the development of statewide policies and regulations for the reduction of GHG emissions. Many of the policy and regulatory concepts identified in the scoping plans focused on increasing energy efficiencies, using renewable resources, and reducing the consumption of petroleum-based fuels (such as gasoline and diesel). As such, the state's GHG emissions reduction planning framework creates co-benefits for energy-related resources.

State of California Energy Action Plan

The California Energy Commission (CEC) and the California Public Utilities Commission (CPUC) approved the first State of California Energy Action Plan in 2003. The plan established shared goals and specific actions to ensure the provision of adequate, reliable, and reasonably priced electrical power and natural gas supplies; it also identified cost-effective and environmentally sound energy policies, strategies, and actions for California's consumers and taxpayers. In 2005, CEC and CPUC adopted a second Energy Action Plan to reflect various policy changes and actions of the prior 2 years.

At the beginning of 2008, CEC and CPUC determined that it was not necessary or productive to prepare a new Energy Action Plan (CPUC 2008). This determination was based, in part, on a finding that the state's energy policies have been significantly influenced by the passage of AB 32, the California Global Warming Solutions Act of 2006 (discussed above). Rather than produce a new Energy Action Plan, CEC and CPUC prepared an "update" that examines the state's ongoing actions in the context of global climate change.

Renewable Energy Sources

SB 1078 established the California RPS Program and required that a retail seller of electricity purchase a specified minimum percentage of electricity generated by eligible renewable energy resources as defined in any given year, culminating in a 20% standard by December 31, 2017. These retail sellers include electrical corporations, community choice aggregators, and electric service providers. The bill relatedly required the CEC to certify eligible renewable energy resources, design and implement an accounting system to verify compliance with the RPS by retail sellers, and allocate and award supplemental energy payments to cover above-market costs of renewable energy.

SB 107 (2006) accelerated the RPS established by SB 1078 by requiring that 20% of electricity retail sales be served by renewable energy resources by 2010 (not 2017). Additionally, SB X1-2 (2011) requires all California utilities to generate 33% of their electricity from eligible renewable energy resources by 2020. Specifically, SB X1-2 set a three-stage compliance period: by December 31, 2013, 20% had to come from renewables; by December 31, 2016, 25% had to come from renewables; and by December 31, 2020, 33% had to come from renewables.

SB 350 (2015) expanded the RPS because it requires retail seller and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030, with interim goals of 40% by 2024 and 45% by 2027.

SB 100 (2018) accelerated and expanded the standards set forth in SB 350 by establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030 be secured from qualifying renewable energy sources. SB 100 also states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources does not increase the carbon emissions elsewhere in the western grid and that the achievement not be accomplished through resource shuffling.

Consequently, utility energy generation from nonrenewable resources is expected to be reduced based on implementation of the 60% RPS in 2030. Therefore, any project's reliance on nonrenewable energy sources would also be reduced.

Warren–Alquist Act

The California Legislature passed the Warren–Alquist Act in 1974, which created CEC. The legislation also incorporated the following three key provisions designed to address the demand side of the energy equation:

- It directed CEC to formulate and adopt the nation's first energy conservation standards for both buildings constructed and appliances sold in California.
- The act removed the responsibility of electricity demand forecasting from the utilities, which had a financial interest in high-demand projections, and transferred it to a more impartial CEC.
- CEC was directed to embark on an ambitious research and development program, with a particular focus on fostering what were characterized as nonconventional energy sources.

California Building Standards

Part 6 of Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. Part 6 establishes energy efficiency standards for residential and nonresidential buildings constructed in California to reduce energy demand and consumption. Part 6 is updated periodically to incorporate and consider new energy efficiency technologies and methodologies.

The current Title 24, Part 6 standards, referred to as the 2022 Title 24 Building Energy Efficiency Standards, became effective on January 1, 2023. The 2022 Energy Code focuses on four key areas in newly constructed homes and business quality:

- Encouraging electric heat pump technology for space and water heating, which consumes less energy and produces fewer emissions than gas-powered units.
- Establishing electric-ready requirements for single-family homes to position owners to use cleaner electric heating, cooking, and electric vehicle charging options whenever they choose to adopt those technologies.
- Expanding solar PV system and battery storage standards to make clean energy available on site and complement the state's progress toward a 100% clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

Title 24 also includes Part 11, the California Green Building Standards (CALGreen), which establishes minimum mandatory standards, as well as voluntary standards, pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements),

water conservation, material conservation, and interior air quality. The 2022 CALGreen standards are the current applicable standards. For nonresidential projects, some of the key mandatory CALGreen 2022 standards involve requirements related to bicycle parking, designated parking for clean air vehicles, electric vehicle charging stations, shade trees, water-conserving plumbing fixtures and fittings, outdoor potable water use in landscaped areas, recycled water supply systems, construction waste management, excavated soil and land clearing debris, and commissioning (24 CCR Part 11).

SB 1368

On September 29, 2006, Governor Arnold Schwarzenegger signed into law SB 1368 (Perata, Chapter 598, Statutes of 2006). The law limits long-term investments in baseload generation (minimum level of demand on an electrical grid over a span of time) by the state's utilities to those power plants that meet an emissions performance standard jointly established by CEC and CPUC.

CEC has designed regulations that:

- Establish a standard for baseload generation owned by, or under long-term contract to, publicly owned utilities of 1,100 pounds carbon dioxide (CO_2) per megawatt-hour (MWh). This would encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of GHGs.
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This would facilitate public awareness of utility efforts to meet customer needs for energy over the long term while meeting the state's standards for environmental impact.
- Establish a public process for determining the compliance of proposed investments with the emissions performance standard (Perata, Chapter 598, Statutes of 2006).

AB 1493

AB 1493 (July 2002) was enacted in response to the transportation sector accounting for a large share of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004.

EO S-01-07

Issued on January 18, 2007, EO S-01-07 sets a declining Low Carbon Fuel Standard (LCFS) for GHG emissions measured in CO_2-equivalent (CO_2e) grams per unit of fuel energy sold in California. The target of the LCFS was to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the life cycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. In 2018, this goal was revised to reduce the carbon intensity of fuels by 20% compared to 2011 by 2030. In 2022, the LCFS exceeded the -10% reduction target with a reported 12.63% carbon intensity reduction for the year (CARB 2023).

SB 375

In August 2008, the legislature passed, and on September 30, 2008, Governor Schwarzenegger signed SB 375 (Steinberg), which addresses GHG emissions associated with the transportation sector through

regional transportation and sustainability plans. Regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035, as determined by CARB, are required to consider the emission reductions associated with vehicle emission standards (see AB 1493), the composition of fuels (see EO S-01-07), and other CARB-approved measures to reduce GHG emissions. Regional metropolitan planning organizations are responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan (RTP). The goal of the SCS is to establish a development plan for the region, which, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If an SCS is unable to achieve the GHG reduction target, a metropolitan planning organization must prepare an alternative planning strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies. SB 375 provides incentives for streamlining California Environmental Quality Act (CEQA) requirements by substantially reducing the requirements for "transit priority projects," as specified in SB 375, and eliminating the analysis of the impacts of certain residential projects on global warming and the growth-inducing impacts of those projects when the projects are consistent with the SCS or alternative planning strategy.

In September 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The targets for the Southern California Association of Governments (SCAG) are an 8% reduction in emissions per capita by 2020 and a 13% reduction by 2035. Achieving these goals through adoption of a SCS is the responsibility of the metropolitan planning organizations. SCAG prepared its RTP/SCS, which was adopted by the SCAG Regional Council on April 4, 2012. The plan quantified a 9% reduction by 2020 and a 16% reduction by 2035. On June 4, 2012, the CARB executive officer issued an EO accepting SCAG's quantification of GHG reductions and the determination that the SCS would achieve the GHG emission reduction targets established by CARB. On April 7, 2016, SCAG adopted the 2016–2040 RTP/SCS, which looks to build on the success of the 2012–2035 RTP/SCS. Targets for the SCAG region in the updated plan includes an 8% per capita reduction in GHG emissions from automobiles and light trucks by 2020, an 19% reduction by 2035, and a 21% reduction by 2040 compared with 2005 levels (SCAG 2020).

On September 3, 2020, SCAG adopted Connect SoCal, the 2020–2045 RTP/SCS, which is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Connect SoCal charts a path toward a more mobile, sustainable, and prosperous region by making connections between transportation networks, planning strategies, and the people whose collaboration can improve the quality of life for Southern Californians. Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

SB 375 Truck and Bus Regulation, On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

On December 12, 2008, CARB approved the Truck and Bus Regulation to significantly reduce particulate matter (PM), and nitrogen oxides (Nox) emissions, from existing diesel vehicles operating in California. Amendments to this regulation were approved by CARB on April 25, 2014.

The regulation applies to nearly all diesel-fueled, dual-fueled, or alternative diesel-fueled trucks and buses with a gross vehicle weight rating greater than 14,000 pounds that are privately or federally owned and for privately and publicly owned school buses. The purpose of this regulation is to reduce emissions of diesel PM, NOx, and other criteria pollutants from in-use diesel-fueled vehicles.

Heavier trucks and buses with a gross vehicle weight rating greater than 26,000 pounds must comply with a schedule by engine model year or owners can report to show compliance with more flexible options.

Starting January 1, 2012, heavier trucks were required to meet the engine model year schedule. Fleets that comply with the schedule must install the best available PM filter on 1996 model year and newer engines and replace the vehicle 8 years later. Trucks with 1995 model year and older engines must be replaced starting in 2015. Replacements with a 2010 model year or newer engines meet the final requirements, but owners can also replace with used trucks that have a future compliance date on the schedule. For example, a replacement with a 2007 model year engine complies until 2023. By 2023, all trucks and buses must have 2010 model year engines with few exceptions. No reporting is required if complying with this schedule (CARB 2023).

Advanced Clean Cars Program

The Advanced Clean Cars (ACC) I program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package of regulations: the low-emission vehicle regulation for criteria air pollutant and GHG emissions and a technology forcing regulation for zero-emission vehicles (ZEVs) that contributes to both types of emission reductions. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide fuels for clean cars. To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold in 2015. The ZEV program will act as the focused technology of the ACC I program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years.

The ACC II program, which was adopted in August 2022, established the next set of LEV and ZEV requirements for model years after 2025 to contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality standards (CARB 2022). The main objectives of ACC II are as follows:

- Maximize criteria and GHG emission reductions through increased stringency and real-world reductions.
- Accelerate the transition to ZEVs through both increased stringency of requirements and associated actions to support wide-scale adoption and use.

Advanced Clean Trucks Regulation

The purpose of the Advanced Clean Trucks Regulation (June 2020) is to accelerate the market for ZEVs in the medium- and heavy-duty truck sector and to reduce emissions NOx, fine PM, toxic air contaminants, GHGs, and other criteria pollutants generated from on-road mobile sources. Requiring medium- and heavy-duty vehicles to transition to zero-emissions technology will reduce health risks to people living in and visiting California and is needed to help California meet established near- and long-term air quality and climate mitigation targets. The regulation has two components including (1) a manufacturer sales requirement and (2) a reporting requirement:

1. Zero-emission truck sales: Manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines will be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b – 3 truck sales, 75% of Class 4 – 8 straight truck sales, and 40% of truck tractor sales.
2. Company and fleet reporting: Large employers including retailers, manufacturers, brokers, and others will be required to report information about shipments and shuttle services. Fleet owners with 50 or more trucks will be required to report about their existing fleet operations. This

information will help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

EO B-16-12

Governor Jerry Brown issued EO B-16-12 on March 23, 2012. The EO requires that state entities under the governor's direction and control support and facilitate the rapid commercialization of ZEVs. It orders CARB, CEC, CPUC, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve the following by 2015:

- The state's major metropolitan areas will be able to accommodate ZEVs, each with infrastructure plans and streamlined permitting.
- The state's manufacturing sector will be expanding ZEV and component manufacturing.
- The private sector's investment in ZEV infrastructure will be growing.
- The state's academic and research institutions will be contributing to ZEV research, innovation, and education.

CARB, CEC, and CPUC are also directed to establish benchmarks to help achieve the following goals by 2020:

- The state's ZEV infrastructure will be able to support up to 1 million vehicles.
- The costs of ZEVs will be competitive with conventional combustion vehicles.
- ZEVs will be accessible to mainstream consumers.
- There will be widespread use of ZEVs for public transportation and freight transport.
- Transportation sector GHG emissions will be falling as a result of the switch to ZEVs.
- Electric vehicle charging will be integrated into the electricity grid.
- The private sector's role in the supply chain for ZEV component development and manufacturing will be expanding.

Benchmarks are also to be established to help achieve the following goals by 2025:

- More than 1.5 million ZEVs will be on California roads and their market share will be expanding.
- Californians will have easy access to ZEV infrastructure.
- The ZEV industry will be a strong and sustainable part of California's economy.
- California's clean, efficient vehicles will annually displace at least 1.5 billion gallons of petroleum fuels.

On a statewide basis, EO B-16-12 establishes a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050.

Cap-and-Trade Program

To achieve the goals of AB 32, the Climate Change Scoping Plan: A Framework for Change included an early action to develop a California Cap-and-Trade Program that links with other Western Climate Initiative partner programs to create a regional market system. The cap-and-trade regulation, which is a key element of California's climate plan, took effect in January 2012 and compliance obligation began in January 2013. The Cap-and-Trade Program sets a statewide limit on sources responsible for 85% of California's GHG emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The program is designed to provide covered entities the flexibility to seek out and implement the lowest-cost options to reduce emissions. The first phase of the cap-and-

trade regulation included electricity generated in and imported into California, large combustion sources (i.e., generally those emitting more than 25,000 metric tons CO_2e per year), and certain industrial sectors. The second phase added providers of transportation fuels and other combustion fuels (e.g., natural gas, propane) to the Cap-and-Trade Program. The regulation requires that emissions generated by these facilities and combustion of fuels be reduced over time under a declining "cap."

AB 1007

AB 1007 (2005) required CEC to prepare a statewide plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). CEC prepared the plan in partnership with CARB and in consultation with other state agencies, plus federal and local agencies. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Local Laws, Regulations, and Policies

Riverside County General Plan

Chapter 3, Land Use Element. Land Use Element Policy LU 17.2 of the Riverside County (County) General Plan encourages the development of renewable energy resources and related infrastructure, including but not limited to, the development of solar power plants (County of Riverside 2021a).

Chapter 9, Air Quality Element. The County's General Plan Air Quality Element includes policies to encourage energy efficiency and conservation of energy sources. The relevant policies associated with energy from the General Plan are provided below (County of Riverside 2018):

- **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 5.2.** Adopt incentives and/or regulations to enact energy conservation requirements for private and public developments.
- **Policy AQ 5.3.** Update, when necessary, the County's Policy Manual for Energy Conservation to reflect revisions to the County Energy Conservation Program.
- **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.

Desert Center Area Plan

The Desert Center Area Plan (County of Riverside 2021b) does not state any additional goals and policies related to energy.

3.7.2 Environmental Setting

Electricity

According to the U.S. Energy Information Administration, California used approximately 255,224 gigawatt-hours (GWh) of electricity in 2018 (EIA 2022a). By sector in 2017, commercial uses utilized 46% of the state's electricity, followed by 35% for residential uses and 19% for industrial uses (EIA 2022a). Electricity usage in California for different land uses varies substantially by the types of uses in a building, types of construction materials used in a building, and the efficiency of all electricity-consuming devices

within a building. Due to the state's energy efficiency building standards and efficiency and conservation programs, California's electricity use per capita in the residential sector is lower than any other state except Hawaii (EIA 2022b).

Southern California Edison (SCE) is the electricity provider for the region of the Project site. In 2021, SCE provided approximately 81,000 total GWh of electricity within its 50,000-square-mile service area (CEC 2022).

Natural Gas

According to the U.S. Energy Information Administration, California used approximately 2,154,030 million cubic feet of natural gas in 2019 (EIA 2022c). Natural gas is used for cooking, space heating, generating electricity, and as an alternative transportation fuel. The majority of California's natural gas customers are residential and small commercial customers (core customers), which accounted for approximately 35% of the natural gas delivered by California utilities in 2018. Large consumers, such as electric generators and industrial customers (noncore customers), accounted for approximately 65% of the natural gas delivered by California utilities. CPUC regulates California natural gas rates and natural gas services, including in-state transmission and distribution pipeline systems, storage, procurement, metering, and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. Biogas (e.g., from wastewater treatment facilities or dairy farms) is just beginning to be delivered into the gas utility pipeline systems, and the state has been encouraging its development. In 2021, the Southern California Gas Company, which is the natural gas provider to the Project site, delivered approximately 5.1 billion therms of natural gas to the region, with 2.8 billion therms for nonresidential use and 2.3 billion therms for residential use (Appendix F, Air Quality, Greenhouse Gas Emissions, and Energy Technical Report).

Petroleum

According to the U.S. Energy Information Administration, California used approximately 681 million barrels of petroleum in 2018, with the majority (584 million barrels) used for the transportation sector. This total annual consumption equates to a daily use of approximately 1.9 million barrels of petroleum (Appendix F). There are 42 gallons in a barrel, so California consumes approximately 78.4 million gallons of petroleum per day, adding up to an annual consumption of 28.7 billion gallons of petroleum. By sector, transportation uses utilize approximately 85.5% of the state's petroleum, followed by 11.1% from industrial, 2.5% from commercial, 0.9% from residential, and 0.01% from electric power uses (EIA 2018). Petroleum usage in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel. California has implemented policies to improve vehicle efficiency and to support use of alternative transportation, which are described in Section 3.7.1, Regulatory Framework, above. As such, CEC anticipates an overall decrease of gasoline demand in the state over the next decade (CEC 2018a).

3.7.3 Impact Analysis

The Project's potential impacts to energy consumption are evaluated in this section. This section includes a description of the methodology of the impact analysis and criteria for determining the significance of the Project's impacts and cumulative impacts.

Methodology

All construction-, operation-, and decommissioning-related activities would involve use of energy-consuming equipment and processes. This analysis presents a qualitative discussion of the Project's energy use for all phases and components, based on the quantitative analysis presented in Section 3.9,

Greenhouse Gas Emissions. As set forth in the CEQA Guidelines, Appendix F, Energy Conservation, the goal of conserving energy implies the wise and efficient use of energy including:

- Decreasing overall per capita energy consumption
- Decreasing reliance on fossil fuels such as coal, natural gas, and oil
- Increasing reliance on renewable energy sources

Lead agency actions that are consistent with these goals would not be likely to cause an energy-related impact. The energy impact analysis emphasizes avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy resources. It also considers whether a project would result in a potentially significant environmental impact due to inefficient, wasteful, and unnecessary consumption of energy.

Examples of energy conservation measures that may be relevant to addressing energy are provided in Appendix F, Energy Conservation, within the CEQA Guidelines.

Petroleum

Petroleum-based fuel usage represents most energy consumed during construction. Petroleum fuels would be used to power off-road construction vehicles and equipment on the Project site, construction worker travel to and from the Project site, and delivery and haul truck trips. During operation, fuel consumption would result from use of passenger vehicles and trucks traveling to and from the Project site by employees and for water delivery, and use of pressure washers and up to three emergency generators.

Fuel consumption from equipment and vehicles was estimated by converting the total CO_2 emissions from each Project phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. All off-road equipment and hauling and vendor trucks are assumed to be diesel, while worker vehicles are assumed to be gasoline. For the purposes of this report, construction was assumed to begin in summer 2024 and last up to 18 months, followed by the first full year of operation in 2026.

The conversion factor for gasoline is 8.78 kilograms per metric ton CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton CO_2 per gallon (The Climate Registry 2022). Per CEQA Guidelines Appendix F, this analysis considers these factors and provides the estimated maximum construction and operational energy consumption for the purposes of evaluating the associated impacts on energy resources and requirements. For additional details, see Appendix F of the CEQA Guidelines.

Electricity and Natural Gas

The estimation of operational electricity consumption was based on the California Emissions Estimator Model (CalEEMod) land use defaults and units or total area (i.e., up to 3,600 square feet) for the proposed operations and maintenance (O&M) building. The energy use from nonresidential land uses is calculated in CalEEMod based on the California Commercial End-Use Survey database. Energy use in buildings (both natural gas and electricity) is divided by the program into end-use categories subject to Title 24 requirements (end uses associated with the building envelope such as the heating, ventilation, and air conditioning system; water heating system; and integrated lighting) and those not subject to Title 24 requirements (such as appliances, electronics, and miscellaneous “plug-in” uses).

In addition to the energy for operation of the O&M building, there would also be energy use to keep the battery energy storage system (BESS) at optimal operating temperatures. It was assumed that approximately 31 kilowatt-hours (kWh) of energy per day per BESS would be required for ventilation and air conditioning systems for the battery storage containers. Assuming ventilation and air conditioning

would be required at all times (24 hours per day, 365 days per year), the system would require approximately 4,526 MWh per year of electricity.

Total annual electricity generation (MWh/year) for the 117 MW facility is estimated to be approximately 375,778 MWh per year. Per CEQA Guidelines Appendix F, this analysis quantifies the Project's energy consumption from operations; evaluates the associated impacts on energy resources and requirements, peak and base period demand, and effects on the local and regional energy supplies; and analyzes the Project's compliance with existing energy standards.

Criteria for Determining Significance

Section VI of Appendix G to the State CEQA Guidelines addresses typical adverse effects due to energy consumption and includes the following threshold questions to evaluate a project's impacts on energy resources. Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Significance thresholds, set forth in the County's Environmental Assessment Checklist, are derived from Section VI of Appendix G to the State CEQA Guidelines (listed above), and state that the Project would have a significant impact on energy resources if the Project or any Project-related component would:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Environmental Impacts

This section includes an examination of the Project's energy impacts per the County's Environmental Assessment Checklist and Appendix G of the State CEQA Guidelines identified above.

Threshold a: Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Implementation of the Project would increase the demand for electricity, natural gas, gasoline, and diesel consumption at the Project site during construction, operation, and decommissioning, which are evaluated below.

Construction

Electricity

LESS THAN SIGNIFICANT. Temporary electric power for as-necessary lighting and electronic equipment, such as computers inside temporary construction trailers, and would be provided by SCE via the Project's distribution line or by generators. Any electricity used for such activities would be temporary, would be substantially less than that required for Project operation, and would therefore have a negligible contribution to the Project's overall energy consumption. Project construction would not result in wasteful, inefficient, or unnecessary consumption of electricity, impacts would be less than significant, and no mitigation would be required.

Natural Gas

LESS THAN SIGNIFICANT. Natural gas is not anticipated to be required during Project construction or decommissioning because construction of new buildings and facilities typically does not consume natural gas. Any natural gas that may be consumed because of construction would be temporary and de minimis. Therefore, Project construction would not result in wasteful, inefficient, or unnecessary consumption of natural gas, impacts would be less than significant, and no mitigation would be required.

Petroleum

LESS THAN SIGNIFICANT. Heavy-duty equipment associated with construction would rely on diesel fuel, as would vendor and haul trucks involved in delivery of materials to the Project site. Construction workers would travel to and from the Project site in passenger vehicles throughout the duration of construction. In addition, as discussed above, construction trailers, backup generators for the BESS units and the substation would likely use diesel generators to power lighting and electronic equipment.

Fuel consumption from construction equipment was estimated by converting the total CO_2 emissions from each construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Construction is estimated to occur between 2024 and 2025. The conversion factor for gasoline is 8.78 kilograms per metric ton CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton CO_2 per gallon (The Climate Registry 2022). The estimated diesel fuel usage from construction equipment, haul trucks, and vendor trucks, as well as estimated gasoline fuel usage from worker vehicles, is shown in Table 3.7-1. Grading at the Project site would be balanced; therefore, no haul trucks are required for import or export of soils. The movement of soils on site would be accomplished with off-road equipment.

Table 3.7-1. Total Project Construction Petroleum Demand

Off-Road Equipment (diesel)	Haul Trucks (diesel)	Vendor Trucks (diesel)	Worker Vehicles (gasoline)	On-Site Trucks (diesel)
		Gallons		
257,978	126,255	14,175	418,490	11,050

Source: See Appendix F for outputs.

In summary, construction of the Project is conservatively anticipated to consume 418,490 gallons of gasoline from worker vehicles and 409,458 gallons of diesel for off-road equipment, haul trucks, vendor trucks, and on-site trucks. By comparison, in 2021 the County consumed approximately 981 million gallons of gasoline and 146 million gallons of diesel (CEC 2022). The Project's construction-related petroleum consumption would be short-term, and would only account for approximately 0.04% and 0.30% of the County's gasoline and diesel demand, respectively. Therefore, the Project would have a nominal effect on local and regional energy supplies during construction. As such, per CEQA Guidelines Appendix F, the Project would not substantially affect regional energy consumption during the construction period and would not require additional capacity.

In addition, the Project would be subject to CARB's In-Use Off-Road Diesel Vehicle Regulation that applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulation (1) imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles; (2) requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled; (3) restricts the adding of older vehicles into fleets starting on January 1, 2014; and (4) requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The fleet must either show that its fleet average

index was less than or equal to the calculated fleet average target rate, or that the fleet has met the Best Available Control Technology requirements. Considering these requirements, Project construction would not result in the inefficient, wasteful, or unnecessary consumption of petroleum, impacts would be less than significant, and no mitigation would be required.

Per preliminary Project details, the solar facility is anticipated to operate for up to 39 years, after which the Project proponent may choose to update site technology and recommission or decommission the site and remove the systems and their components. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and would be in accordance with all applicable federal, state, and County regulations.

It is anticipated that equipment and activities similar to Project construction would be required during decommissioning of the site. While similar equipment use and activities are anticipated, impacts related to energy use would be less than those during construction given that equipment and vehicles are expected to be cleaner and more fuel-efficient in the future. However, to provide a conservative analysis, it is assumed that decommissioning impacts are equal to construction impacts. As such, and consistent with construction impacts, decommissioning would not result in wasteful, inefficient, or unnecessary consumption of energy, impacts would be less than significant, and no mitigation would be required.

Operational Use

Electricity

LESS THAN SIGNIFICANT. Project operation would require electricity for multiple purposes including, but not limited to, building heating and cooling, water heating, lighting, appliances, and electronics. CalEEMod was used to estimate Project emissions from electricity uses (see Appendix F for calculations). Default electricity generation rates in CalEEMod were used based on the proposed land use and climate zone. The increase in electricity demand for the future potential buildout of the Project's O&M building is approximately 62,795 kWh per year, while the electricity demand related to ventilation for the BESS is approximately 4,526,000 kWh per year.

For comparison, in 2021, the nonresidential electricity demand was 8,256,708,716 kWh (8,257 GWh) for the County (CEC 2023a). Compliance with California Title 24 building standards would further ensure that the energy demands would not be inefficient, wasteful, or unnecessary.

The Project's anticipated operational energy demand represents a minute fraction of SCE's annual electricity sales. For the 2021 fiscal year, SCE had an annual electric sale to customers of approximately 81,128,918 MWh (CEC 2023b). The Project electricity demand represents approximately 0.00004% of the SCE network sales for 2021. In addition, CEC forecasts SCE's peak demand in the first full year of Project operation (2026) would be approximately 105,000 GWh (CEC 2018b). Under peak conditions, the Project would consume a net increase of 1,815 MWh on an annual basis, which is equivalent to a peak of 0.214 MW. In comparison to the SCE power grid base peak load of 24,000 MW for 2026, the Project would represent approximately 0.00002% of the SCE base peak load conditions.

Furthermore, while Project operation would involve some electricity consumption, the Project would be a significant net producer of clean electricity. The Project is estimated to produce 375,778 MWh per year of renewable energy from the 117 MW solar system. Thus, Project operation would not result in wasteful, inefficient, or unnecessary energy consumption, impacts would be less than significant, and no mitigation would be required.

Natural Gas

LESS THAN SIGNIFICANT. Default CalEEMod assumptions for operation of the Project assume use of natural gas for various purposes, including water heating. Natural gas consumption associated with operation is based on the CalEEMod outputs presented in Appendix F and is calculated using CalEEMod default values for energy consumption for the proposed O&M building as described above. Given that the O&M building would likely use all-electric appliances, CalEEMod default assumptions that include use of natural gas provide a conservative analysis of operational energy use.

The Project is anticipated to consume approximately 99,312 kilo-British thermal units (kBtu) of natural gas per year. For context, in 2021, California consumed approximately 1,192 billion kBtu of natural gas. Locally, in 2021, nonresidential uses in the County consumed about 14.4 billion kBtu of natural gas (CEC 2023c). The Project would comprise less than approximately 0.00001% and 0.001% of total statewide and Countywide natural gas consumption, respectively. As such, Project operation would not result in wasteful, inefficient, or unnecessary consumption of natural gas, impacts would be less than significant, and no mitigation would be required.

Petroleum

LESS THAN SIGNIFICANT. During operations, the majority of fuel consumption resulting from the Project would involve the use of motor vehicles traveling to and from the Project site, including employee trips and use of diesel-powered pressure washers annually for panel washing, up to three backup emergency generators and may also include water deliveries.

Similar to construction, fuel consumption from worker and vendor trips and use of off-road equipment is estimated by converting the total CO_2 emissions from operation of the Project to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Haul trucks for water deliveries and off-road equipment are assumed to be diesel, while worker vehicles are assumed to be gasoline. The estimated diesel fuel usage from off-road equipment, emergency generators, and water haul trucks, as well as estimated gasoline fuel usage from worker vehicles during operation, is shown in Table 3.7-2.

Table 3.7-2. Total Project Operational Petroleum Demand

Off-Road Equipment (diesel)	Emergency Generators (diesel)	Water Trucks (diesel)	Worker Vehicles (gasoline)	Total
		Gallons		
31	7,494	1,703	1,113	10,341

Source: See Appendix F for outputs.

As shown in Table 3.7-2, the annual petroleum consumption for the Project is estimated to be approximately 10,341 gallons per year. By comparison, California as a whole consumes approximately 28.7 billion gallons of petroleum per year, and in 2021 the County consumed approximately 981 million gallons of gasoline and 146 million gallons of diesel (CEC 2022). The Project's operational petroleum consumption would account for approximately 0.0009% of the County's total petroleum demand, which would have a nominal effect on local and regional energy supplies. As such, per CEQA Guidelines Appendix F, the Project would not substantially affect regional energy consumption and would not necessitate additional capacity.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells), would

likely decrease future gasoline fuel demands per vehicle miles traveled. The Project would comply with Corporate Average Fuel Economy standards, which would result in more efficient use of transportation fuels (lower consumption). Project-related vehicle trips would also comply with the Pavley regulations, which are designed to reduce vehicle GHG emissions by mandating increasingly stringent emissions standards on new vehicles, but would also result in fuel savings from more efficient engines in addition to compliance with Corporate Average Fuel Economy standards. Project operation would not result in the wasteful, inefficient, or unnecessary consumption of petroleum, impacts would be less than significant, and no mitigation would be required.

With respect to operational transportation-related fuel usage and in relation to CEQA Guidelines Appendix F, enhanced fuel economies realized pursuant to federal and State regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. The Project would comply with Corporate Average Fuel Economy standards, which would result in more efficient use of transportation fuels (lower consumption). Project-related vehicle trips would also comply with Pavley Standards, which are designed to reduce vehicle GHG emissions by mandating increasingly stringent emissions standards on new vehicles, but would also result in fuel savings from more efficient engines in addition to compliance with Corporate Average Fuel Economy standards.

Threshold b: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Construction and Decommissioning

LESS THAN SIGNIFICANT. During construction and decommissioning, the Project would utilize contractors that must demonstrate compliance with applicable regulations. Off-road equipment would be required to comply with federal, state, and regional requirements where applicable. With respect to truck fleet operators, EPA and NHTSA have adopted fuel-efficiency standards for medium- and heavy-duty trucks that will be phased in over time. Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018 and result in a reduction in fuel consumption from 6% to 23% over the 2010 baseline, depending on the vehicle type. EPA and NHTSA also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5% to 25% reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type (Appendix F). The energy modeling for trucks does not consider specific fuel reductions from these regulations because they would apply to fleets as they incorporate newer trucks meeting the regulatory standards; however, these regulations would have an overall beneficial effect on reducing fuel consumption from trucks over time as older trucks are replaced with newer models that meet the standards.

In addition, off-road equipment and trucks are required to comply with CARB regulations regarding heavy-duty truck idling limits of 5 minutes per occurrence. Off-road emissions standards would increase equipment efficiencies as they are phased in over time and less-efficient equipment is phased out of construction fleets. These limitations would result in an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines. Although these requirements are intended to reduce criteria pollutant emissions, compliance with the anti-idling and emissions regulations would also result in the efficient use of construction- and decommissioning-related energy. Thus, based on the information above, construction and decommissioning of the Project would comply with state or local plans for renewable energy or energy efficiency.

The Project's construction equipment used would be consistent with the energy standards applicable to construction equipment, including limiting idling fuel consumption and using contractors that comply with applicable CARB regulatory standards that affect energy efficiency. Therefore, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency during Project construction or decommissioning, and impacts would be less than significant.

Operation

LESS THAN SIGNIFICANT. The County's Climate Action Plan sets targets and strategies to reduce GHG emissions and associated climate change by supporting use of renewable energy within the County. Specifically, R1: Clean Energy Measure encourages the use of clean energy to align with the state's RPS goals, and achieve Countywide GHG emission reductions. The Project would directly support this goal and the County's Climate Action Plan. The Project's BESS would also support the storage of renewable energy as SCE increases its portfolio of renewable energy sources in support of SB 100's goal of carbon-free electricity by 2045.

At a minimum, the Project would be subject to and would comply with the 2022 California Building Code Title 24 (24 CCR, Part 6), which establishes energy efficiency standards for residential and nonresidential buildings constructed in the State of California in order to reduce energy demand and consumption. Additionally, Title 24, Part 11, contains voluntary and mandatory energy measures that are applicable to the Project under the CALGreen Code, including diversion of construction and demolition waste material, and periodic inspection of energy systems, among others. In accordance with Title 24, Part 11, mandatory compliance, the Project would decrease the consumption of electricity, natural gas, and petroleum.

Because the Project would comply with Title 24, Part 6 and Part 11, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

Cumulative Impacts

Geographic Scope. The geographic scope of the cumulative analysis for energy consumption would be all cumulative projects identified in Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario. This geographic area was selected because all cumulative projects have the potential to temporarily or permanently utilize energy resources or have the potential to conflict with plans and policies related to increasing renewable energy and energy efficiency.

Cumulative Impacts. As discussed under Threshold "a," the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources, including electricity, natural gas, or petroleum during Project construction, decommissioning, or operation. The Project would increase the use of renewable energy, thus reducing the use of fossil fuel for electrical generation by conventional power plants. A number of cumulative projects identified in Tables 3.1-1 and 3.1-2 are also renewable energy facilities. While construction activities associated with cumulative projects identified in Tables 3.1-1 and 3.1-2 would require the use of fossil fuels, it is assumed each project would initiate best management practices and other methods as part of project approval to reduce wasteful, inefficient, or unnecessary use of energy resources. Therefore, the Project would not contribute to a cumulatively significant impact related to renewable energy and energy efficiency.

As discussed under Threshold "b," the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, the Project would not contribute to a cumulatively significant impact related to the obstruction of a state or local plan for renewable energy or energy efficiency.

3.7.4 Mitigation Measures

No mitigation would be required.

3.7.5 References

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3.8 Geology and Soils

This section includes an analysis of the impacts to geology and soils resources that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning the proposed project (Project). The analysis in this section describes the applicable regulations, provides information on existing conditions in and surrounding the Project area, identifies the criteria used for determining the significance of environmental impacts, describes the Project's potential impacts related to geology and soils, and lists Mitigation Measures (MMs) that would be incorporated into the Project to avoid and or substantially lessen to the extent feasible potentially significant impacts.

The information in this section is based on the Geological Desktop Evaluation prepared by Ninyo & Moore (2023), which is provided in Appendix B.

3.8.1 Regulatory Framework

Federal Laws, Regulations, and Policies

Federal Earthquake Hazards Reduction Act. In 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes, through the establishment and maintenance of an effective earthquake hazards and reduction program. To accomplish this, the act established the National Earthquake Hazards Reduction Program. The agencies responsible for coordinating this program are the Federal Emergency Management Agency, the National Institute of Standards and Technology, the National Science Foundation, and the U.S. Geological Survey. In 1990, the National Earthquake Hazards Reduction Program was amended by the National Earthquake Hazards Reduction Program Act, which refined the description of the agency responsibilities, program goals, and objectives. The four goals of this act are (1) develop effective practices and policies for earthquake loss-reduction and accelerate their implementation, (2) improve techniques to reduce seismic vulnerability of facilities and systems, (3) improve seismic hazards identification and risk-assessment methods and their use, and (4) improve the understanding of earthquakes and their effects.

International Building Code (IBC). Published by the International Code Council, the purpose of the IBC is to establish minimum structural requirements to provide a reasonable level of safety, public health, and general welfare, through structural strength, and safety to life and property from fire and other hazards attributed to the built environment. The provisions of the IBC apply to the construction, alteration, relocation, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of buildings or structures, as well as any appurtenances connected to applicable buildings or structures. The IBC also incorporates the requirements and regulations set forth in several other International Code Council codes, including the International Energy Conservation Code, the International Existing Building Code, the International Fire Code, and the International Fuel Gas Code. The IBC is in use or adopted in all 50 states of the United States and is updated every 3 years to ensure that new construction methods and technologies are incorporated into existing codes. The IBC has replaced the Uniform Building Code as the basis for the California Building Code (CBC).

Clean Water Act. The Clean Water Act (33 USC 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of waters of the United States. The Clean Water Act requires states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain non-point-source discharges to surface water. Section 402 of the Clean Water Act establishes the National Pollutant Discharge Elimination System (NPDES) permit program to regulate point-source and non-point-source

discharges of pollutants into waters of the United States. Discharges or construction activities that disturb 1 or more acres—including the Project—are regulated under the NPDES stormwater program and are required to obtain coverage under an NPDES Construction General Permit. The Construction General Permit establishes limits and other requirements, such as the implementation of a Stormwater Pollution Prevention Plan (SWPPP), which would further specify best management practices and other measures designed to avoid or eliminate pollution discharges in waters of the United States. The NPDES program is a federal program that has been delegated to the State of California for implementation through the State Water Resources Control Board and the nine Regional Water Quality Control Boards. The State Water Resources Control Board and Regional Water Quality Control Boards have the responsibility of granting NPDES permits and setting waste discharge requirements for stormwater runoff from construction sites.

Institute of Electrical and Electronics Engineers (IEEE) 693. IEEE 693, Recommended Practices for Seismic Design of Substations, was developed by the Substations Committee of the IEEE Power Engineering Society and approved by the American National Standards Institute and the IEEE-SA Standards Board. This document provides seismic design recommendations for substations and equipment, consisting of seismic criteria, qualification methods and levels, structural capacities, performance requirements for equipment operation, installation methods, and documentation. This recommended practice emphasizes the qualification of electrical equipment. IEEE 693 is intended to establish standard methods of providing and validating the seismic withstand capability of electrical substation equipment. This document provides detailed test and analysis methods for each type of major equipment or component utilized in electrical substations. This recommended practice is intended to assist the substation user or operator in providing substation equipment that will have a high probability of withstanding seismic events to predefined ground acceleration levels. In addition, this document establishes standard methods of verifying seismic withstand capability, which gives the substation designer the ability to select equipment from various manufacturers, knowing that the seismic withstand rating of each manufacturer's equipment is an equivalent measure. Although most damaging seismic activity occurs in limited areas, many additional areas could experience an earthquake with forces capable of causing great damage. This recommended practice should be used in all areas that may experience earthquakes.

State Laws, Regulations, and Policies

California Building Code. The CBC is promulgated under Title 24, Parts 1 through 12, of the California Code of Regulations (also known as the California Building Standards Code) and is administered by the California Building Standards Commission. The Project is subject to the applicable sections of the CBC. The Riverside County (County) Building Department is responsible for implementing the CBC for the Project, which would comply with applicable seismic design and construction criteria of the most recent CBC. The most recent version of the CBC, the 2022 CBC, became effective January 1, 2023, and is updated triennially.

The earthquake design requirements consider 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 F (very high seismic vulnerability and near a major fault). For SDCs D, E, and F, Chapter 18 of the CBC 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. Chapter 18 of the CBC also addresses MMs 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.

California Fire Code. Chapter 12, Section 1207, of the 2022 California Fire Code provides provisions related to the installation, operation, and maintenance of electrical energy storage systems. Subsection 1207.4.4, Seismic and Structural Design, states that "Stationary ESS [Electrical Energy Storage Systems] shall comply with the seismic design requirements in Chapter 16 of the California Building Code, and shall not exceed the floor loading limitation of the building."

Alquist-Priolo Earthquake Fault Zoning Act. The Alquist-Priolo Earthquake Fault Zoning Act of 1972, California Public Resources Code, Sections 2621–2630 (formerly the Special Studies Zoning Act), regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. While this act does not specifically regulate components not intended for human occupancy, it does help define areas where fault rupture, and thus related damage, is most likely to occur. This act groups faults into categories of active, potentially active, and inactive. Historic- and Holocene-age faults are considered active, Late Quaternary- and Quaternary-age faults are considered potentially active, and pre-Quaternary-age faults are considered inactive. These classifications are qualified by the conditions that a fault must be shown to be "sufficiently active" and "well defined" by detailed site-specific geologic explorations to determine whether building setbacks should be established. Cities and counties affected by the zones must regulate certain development projects within the zones. Jurisdictions must withhold development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting.

Seismic Hazards Mapping Act. The Seismic Hazards Mapping Act of 1990 (California Public Resources Code, Sections 2690–2699) was established to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards. The act directs the California Department of Conservation, Division of Mines and Geology (now called the California Geological Survey) to delineate Seismic Hazard Zones or Zones of Required Investigation. Zones of Required Investigation, referred to as "Seismic Hazard Zones" in Title 14 California Code of Regulations Section 3722, are areas shown on Seismic Hazard Zone Maps where site investigations are required to determine the need for mitigation of potential liquefaction and/or earthquake-induced landslide ground displacements. A geotechnical investigation of the site must be conducted and appropriate MMs incorporated into the project design before development permits may be granted. Cities, counties, and state agencies are directed to use seismic hazard zone maps developed by the California Geological Survey in their land-use planning and permitting processes. The act requires that site-specific geotechnical investigations be performed prior to permitting most urban development projects within seismic hazard zones.

Local Laws, Regulations, and Policies

Riverside County Code of Ordinances. Title 15 of Riverside County Code of Ordinances regulates buildings and construction by adopting reference to the CBC, in addition to County-specific amendments that are equal to or more stringent than the provisions of the CBC.

Riverside County Department of Environmental Health. The Department of Environmental Health oversees on-site wastewater treatment system permits and projects, and reviews and approves septic system plans. To obtain a construction permit for the installation of a new septic system, a building permit is required from the local building and safety agency. A Land Use Application (On-Site Wastewater Treatment System Construction Application) must be submitted, along with supporting documentation and fees, at the Downtown Riverside or Indio Office, depending on the location of the project. After submission and evaluation, additional information may be required. Supporting documentation includes the following:

- A percolation report, including three sets of detailed plans, signed by a Professional of Record registered with the Department of Environmental Health.
- A floor plan, drawn to scale, of the dwellings or structures that the septic system will service.
- Documentation of water service, such as a will-serve letter or water bill. If an existing water well will be used to supply potable water, a well evaluation may be required. If a new well will be constructed, a County Environmental Health Permit for construction, reconstruction, or destruction of the well is required throughout the County.

Riverside County General Plan Safety Element. The Safety Element of the General Plan (County of Riverside 2021a) addresses seismic hazards related to fault rupture and seismically induced liquefaction, landslides, and rockfalls, as well as slope and soil instability hazards related to subsidence, expansive and collapsible soils, wind erosion, landslides, rockfalls, and debris flows.

Desert Center Area Plan: Seismic. Seismic hazards pose significant threats to life and property in the area. The most significant fault within the plan area runs northerly of and parallel to Interstate 10 through the Desert Center community. Threats from seismic events include ground shaking, fault rupture, and landslides. Liquefaction is a moderate threat within much of the area. The use of special building techniques, the enforcement of setbacks, and practical avoidance measures will help to mitigate these potentially dangerous circumstances (County of Riverside 2021b).

- **Policy DCAP 11.1.** Protect life and property from seismic-related incidents through adherence to the policies in the Seismic Hazards and Geologic Hazards section of the General Plan Safety Element.

Desert Center Area Plan: Slope. The Chuckwalla, Eagle, and Coxcomb Mountains play an integral part in establishing the character and atmosphere of Desert Center. While densities are limited in the Open Space-Rural land use designation, development that does occur must prevent or minimize the potential for erosion and landslides, preserve significant views, and minimize grading and scarring. The following policy is intended to protect life and property while maintaining the natural character of this area (County of Riverside 2021b):

- **Policy DCAP 12.1.** Protect life and property, and maintain the character of Desert Center, through adherence to the Hillside Development and Slope section of the General Plan Land Use Element, the Rural Mountainous and Open Space land use designations within the General Plan Land Use Element, and the Slope and Soil Instability Hazards section of the General Plan Safety Element.

3.8.2 Environmental Setting

The Project site is located within Chuckwalla Valley, which is part of the Colorado Desert Geomorphic Province, in Riverside County, California. This province is characterized by a low-lying barren desert basin, about 245 feet below sea level in part, that is dominated by the Salton Sea (CGS 2002). The province is a depressed block between active branches of the alluvium-covered San Andreas Fault with the southern extension of the Mojave Desert on the east. Geologic features include ancient beach lines and silt deposits of extinct Lake Cahuilla.

Geology

The Project site is in Southern California, which is a seismically active area. The type and magnitude of seismic hazards affecting the site are dependent on a number of different factors that include the distance

to the source of seismic activity, typically a Holocene-active fault[1], the intensity, durations of shaking, characteristics of the underlying materials, and the magnitude of the seismic event. The site is not located within an Alquist-Priolo Earthquake Fault Zone shown on the State Fault Hazard Maps (Appendix B). Regional Holocene-active faults in the area include the Elsinore, San Jacinto, and San Andreas fault zones with the closest to the Project site being the San Andreas at approximately 34 miles west of the site (Appendix B).

Based on a review of published geologic maps, surficial soils at the Project site and along the proposed Linear Facility Routes consist of fill, agricultural topsoils, dune sands and alluvium (Appendix B). Fill soils likely underlie portions of the site, based on previous land use, and are expected to consist of clay, silt, sand, and gravel although no documentation of the fill is available. Agricultural topsoils are likely present across most of the site and are expected to be roughly 1 to 3 feet in thickness. Quaternary-aged (between 11,700 years and 2.6 million years) alluvium underlies the fill and agricultural topsoil at the site and consists of silt, sand, and gravel. As discussed in Section 3.15, Paleontological Resources, the dune sands, aged less than 4,200 years old, are active dunes generated in a desert playa setting and therefore are typically very fine to fine grained.

Groundwater depths in the area of the Project likely range from approximately 69 to 400 feet below ground surface (Appendix B). Fluctuations of groundwater levels are anticipated due to varying conditions such as precipitation, irrigation practices, groundwater pumping, and others.

Additionally, the Geological Desktop Evaluation (Appendix B) identified the Project area, identified as the solar facility area (private lands) and the Linear Facility Routes (lands administered by the BLM), as having a horizontal peak ground acceleration of as much as 0.67 g, which is enough to cause damage in structures that are not designed appropriately. The CBC recommends that the design of structures be based on the horizontal peak ground acceleration having a 2% probability of exceedance in 50 years. The Geological Desktop Evaluation identified that peak ground acceleration with a 2% probability of exceedance in 50 years would be 0.29 g. According to the Geological Desktop Evaluation, these estimates generally indicate a moderate potential for strong ground motions due to a seismic event on a regional fault (Appendix B).

Regarding geologic hazards, the Geological Desktop Evaluation summarizes the risk as follows (additional information regarding the geologic hazards is provided in the report):

- Slope stability and landslide hazards—Landslides generally occur where slopes are steep and/or soils lack cohesiveness. Earthquakes can induce landslides and mass wasting in zones that are susceptible. The site is within a gentle slope area; geologic hazards associated with slope instability and landslide hazards may be considered low.
- Surface fault rupture—The site is not located within an Alquist-Priolo Special Study Zone and no Holocene-active faults are known to intersect the Project site.
- Collapsible and/or expansive soils—Collapsible soils consist of loose, dry, low-density materials that collapse, compact, and change in settlement under the addition of water (also known as hydrocompaction) or excessive loading, often resulting in severe damage to structures. These soils are distributed throughout the southwestern United States, specifically in areas of young alluvial fans, debris flow sediments, and loess (wind-blown sediment) deposits. Expansive soils contain clay types capable of absorbing water in a manner that results in volumetric changes. Over long-term periods of

[1] A Holocene-active fault is defined as a fault where there is evidence of displacement within the last 11,700 years.

cyclical changes in water content, these volumetric changes can end up causing damage to foundations, retaining walls, sidewalks, and roadways.

- The presence of collapsible or expansive soils can only be definitively determined through analysis of site-specific subsurface soils, which was not conducted as part of the Geological Desktop Evaluation for the Project site. However, the report did indicate that the site soils may be expected to have a moderate to high potential for expansion (Appendix B).
- Liquefaction potential—Saturated cohesionless soils, typically sandy soils, within 50 feet of ground surface are generally the most susceptible to liquefaction hazards. Based on the anticipated depth to groundwater (69 to 400 feet below the ground surface), the Geological Desktop Evaluation (Appendix B) concluded that the potential for liquefaction at the site was low.
- Subsidence—Land subsidence is a gradual settling or sudden sinking of the Earth's surface due to removal or displacement of subsurface earth materials. Subsidence can also occur naturally when moisture-deficient soils are exposed to water or by human activities including the extraction of oil and gas and the withdrawal of groundwater. Based on the Geological Desktop Evaluation, an area of subsidence associated with groundwater pumping is located approximately 40 miles west of the Project site near Indio. However, subsidence has not been reported in the Chuckwalla Valley near the Project site, and is not considered to be a substantive design consideration (Appendix B).
- Ground shaking potential—The Project has a moderate potential for strong ground motions due to earthquakes on nearby active faults that could produce strong ground shaking at the Project site during the life span of the Project.

Sand Transport

Chuckwalla Valley is a region of active aeolian (i.e., windblown) sand migration and deposition. Aeolian processes play a major role in the creation and establishment of sand dune formations and habitat in the Chuckwalla Valley and those within the Project area. A relatively recent study (Kenney 2018, as cited in USGS 2021) reviewed the sand corridor throughout the Chuckwalla Valley and concluded that the sand transport system relies on local sand systems, rather than systems that cross the entire Chuckwalla Valley. The dominant sand-transport direction occurring in eastern Chuckwalla Valley is toward the northeast (USGS 2021). However, occasional strong wind events from the north can transport large quantities of sand southward and temporarily reshape local geomorphic features, as observed in late October 2019 (USGS 2021). Natural sand-transport corridors are necessary to allow sand to be transported eastward from the ephemeral stream channels and playas that supply sediment to the dunes, sand sheets, and sand ramps of Chuckwalla Valley for southward transport during episodic strong weather events (USGS 2021). A USGS study determined that the sand corridors cannot be defined in fixed boundaries but are dynamic systems that change spatially over time and reorganize based on seasonal changes (USGS 2021).

At the Project site, evidence of past farming disturbances is apparent (including mixed-use agricultural practices, jojoba cultivation, and aquaculture farming) and have modified the natural hydrology of the site. Northeasterly-flowing ephemeral streams and washes that fan out from the Eagle Mountains in the west flow through and around the Project site. According to mapping compiled by the Bureau of Land Management (BLM), the Project site is not located within an aeolian and sand transport area (BLM 2023).

3.8.3 Impact Analysis

Methodology

Geology

The following analysis of potential geologic and soil-related impacts was based on the Geological Desktop Evaluation prepared for the Project (Appendix B). It is assumed that geotechnical considerations for future structures are designed in accordance with applicable requirements of the most recent CBC and the County Municipal Code and any applicable building and seismic codes in effect at the time the grading plans are approved. It is also assumed that the Applicant will include a geotechnical engineering review of the Project engineering plans by a California licensed geotechnical engineer or engineering geologist prior to construction as recommended in a final design-level geotechnical report that includes site-specific analysis of on-site conditions in accordance with building code requirements. The environmental impact report assesses Project impacts to soils and geologic hazards based on these considerations.

Criteria for Determining Significance

- Section VII of Appendix G to the California Environmental Quality Act (CEQA) Guidelines addresses typical adverse effects due to geologic conditions, and includes the following threshold questions to evaluate a project's impacts resulting from geologic or soil conditions. Would the project:
    a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving:
        i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
        ii. Strong seismic ground shaking?
        iii. Seismic-related ground failure, including liquefaction?
        iv. Landslides?
    b. Result in substantial soil erosion or the loss of topsoil?
    c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?
    d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) [Section 1803.5.3 of the California Building Code (2019)], creating substantial direct or indirect risks to life and property?
    e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
    f. Directly or indirectly destroy a unique site or unique geologic feature?[2]

[2] See Section 3.15, Paleontological Resources.

Significance thresholds set forth in the County's Environmental Assessment Checklist are derived from Section VII of Appendix G to the State CEQA Guidelines (listed above) and state that the Project would have a significant impact on geologic resources if the Project or any Project-related component would:

a. Be subject to 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?

b. Be subject to seismic-related ground failure, including liquefaction?

c. Be subject to strong seismic ground shaking?

d. 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, collapse, or rockfall hazards?

e. 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 ground subsidence?

f. Be subject to geologic hazards, such as seiche, mudflow, or volcanic hazard?

g. Change topography or ground surface relief features[3]?

h. Create cut or fill slopes greater than 2:1 or higher than 10 feet?

i. Result in grading that affects or negates subsurface sewage disposal systems?

j. Result in substantial soil erosion or the loss of topsoil?

k. Be located on expansive soil, as defined in Section 1803.5.3 of the California Building Code (2022), creating substantial direct or indirect risks to life or property?

l. Have soils incapable of adequately supporting use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

m. Be impacted by or result in an increase in wind erosion and blow sand, either on or off site?

Environmental Impacts

This section includes an examination of the Project's geology and soils impacts per the County's Environmental Assessment Checklist and Appendix G to the State CEQA Guidelines identified above.

Threshold a: Be subject to 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?

LESS THAN SIGNIFICANT. The Project site is not located within an Alquist-Priolo Special Study Zone or a fault zone based on the County studies; therefore, the risk of a rupture of a known fault at the site and any resulting adverse effects is unlikely. The Project would be required to follow regulatory requirements regarding building the structures and would follow any recommendations of the state licensed geotechnical engineer on record. As a result, any impact would be less than significant.

[3] Ground surface relief feature could include a mound, hill, cliff, bluff, or other distinctive feature that is readily identifiable visually.

Threshold b: Be subject to seismic-related ground failure, including liquefaction?

LESS THAN SIGNIFICANT. As noted in the Geological Desktop Evaluation, the anticipated depth to groundwater (69 to 400 feet below the ground surface) indicates that the potential for liquefaction at the site is low. However, all proposed improvements (e.g., solar panels, operation and maintenance [O&M] building, and battery storage facility) would be required to adhere to the seismic requirements of the County Building Code and most recent CBC, which include requirements for site preparations and foundation design measures to ensure that any liquefaction hazards are minimized. Therefore, considering the anticipated groundwater conditions (i.e., depth to groundwater) at the site and adherence to the seismic design requirements of the County and CBC, the potential impact of seismic-related ground failure including liquefaction would be less than significant.

Threshold c: Be subject to strong seismic ground shaking?

LESS THAN SIGNIFICANT. Although no known Holocene-active or non-active faults underlie the Project area, strong ground shaking resulting from a seismic event on a regional Holocene-active fault could occur.

Ground shaking of this magnitude could result in damage to Project structures, including the photovoltaic solar panels, inverters/transformers, collection lines, on-site battery storage system, O&M building, gen-tie lines, and other appurtenances, which could result in adverse effects if not designed and engineered appropriately.

Potential impacts to the solar facility, Linear Facility Routes, 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 Building Code and the most recent CBC, and would be consistent with the recommendations outlined in a final design-level geotechnical report in accordance with building code regulations. The regulatory requirements put in place seismic design requirements that must be developed prior to final Project design, and implementation would minimize any potential impacts related to secondary seismic effects during operation and maintenance activities. Engineering of the Project would take into consideration the seismic design requirements, which would be provided in the final design-level geotechnical report including any seismic concerns during the building permit review process that would be completed prior to issuance of a building permit. Therefore, due to the existing regulatory requirements and with adherence to seismic design specifications, the potential impact of strong seismic ground shaking would be less than significant.

Threshold d: 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, collapse, or rockfall hazards?

LESS THAN SIGNIFICANT. As noted above, the Project site is located in an area of relatively gentle topography and has a relatively low potential for slope instability or landslide hazards including rockfalls. Lateral spreading, a hazard associated with liquefaction where liquefiable materials move as a block toward an open slope face, would also have a low probability at the site due to the topography, depth to groundwater, and low liquefaction potential.

Based on the Geological Desktop Evaluation, there is an area of documented subsidence located approximately 40 miles west of the Project site. However, subsidence has not been reported in the Chuckwalla Valley near the Project site and is not considered to be a substantive design consideration (Appendix B). Arid soils are in general more susceptible to collapse, but the hazard can only be definitively evaluated through collection of site-specific data through a geotechnical investigation. In accordance with building code requirements, a final design-level geotechnical report is required and would include an

evaluation of collapsible soils with recommendations to address these hazards through site preparation methods (e.g., grading, recompaction of soils, or use of engineered fill materials).

Overall, the Project area has a low to moderate risk of becoming unstable and resulting in geologic impacts. Engineering of the Project would take into consideration the results and recommendations provided in a required design-level geotechnical report in accordance with building code requirements.

Because of the existing regulatory requirements and with implementation of a design-level geotechnical report, the potential impact of on- or off-site landslide, lateral spreading, collapse, or rockfall hazards would be less than significant.

Threshold e: 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 ground subsidence?

LESS THAN SIGNIFICANT. As noted above, subsidence has not been reported in the Chuckwalla Valley area and the only known area of subsidence in the vicinity of the site is approximately 40 miles away to the west. Adherence to building code requirements including the preparation of a design-level geotechnical report that would include recommendations for site preparations (e.g., grading and recompaction of surface soils or placement of engineered fill materials) would ensure that subsurface soils could adequately support all proposed improvements.

Subsidence tends to occur where there is sustained regional groundwater pumping that substantively depresses the groundwater table and geologic conditions are conducive to volumetric changes from the lowered groundwater. The Project does include construction of on-site groundwater wells to provide water supply for the Project, primarily for dust control and soil compaction. The wells would be used for the O&M building and the infrequent washing of solar panels, such that the use would be generally far less than other land uses such as agriculture where pumping can result in subsidence. In addition, there are other wells in the region (e.g., active aquaculture facility to the west, Lake Tamarisk community, Chuckwalla Valley Raceway, and Palen Solar Project) with groundwater levels relatively stable (see also groundwater discussion in Section 3.11, Hydrology and Water Quality) and no known presence of subsidence issues. Therefore, while the Project would include groundwater pumping, the volume of water required would be relatively small at an estimated 100 to 300 acre-feet for the construction period and up to 9 acre-feet per year during operations. As a result, the potential for subsidence due to groundwater withdrawal is not likely and the potential impact would be less than significant.

Threshold f: Be subject to geologic hazards, such as seiche, mudflow, or volcanic hazard?

LESS THAN SIGNIFICANT. Seiche hazards are only present at locations that are beside an enclosed or semi-enclosed body of water. None of the Project elements are located adjacent to an enclosed or semi-enclosed body of water and as such there would be no potential to be adversely affected by seiche hazards.

As noted above, the Project site is also located on relatively gentle topography and while in a DWR Flood Hazard Awareness Zone (see Section 3.11), the topography is such that the potential for mudflows is relatively low.

The Project site is not located within close proximity to a volcanic hazard with the closest volcanic hazard area being the Salton Buttes Area at the south end of the Salton Sea located approximately 45 miles southwest of the Project site (USGS 2023).

Therefore, based on the Project site location and characteristics, the potential to be adversely affected by seiche, mudflow, or volcanic hazards is relatively low and considered a less-than-significant impact.

Threshold g: Change topography or ground surface relief features?

LESS THAN SIGNIFICANT. The site was previously graded to support its former function as an agricultural (Jojoba farming) facility, which has been fallow for more than 10 years. The Project would include limited grading due to the generally flat topography with the majority of grading required for access roads, inverter pad locations, the substation, the O&M building, transmission tower foundations, internal roadway, the laydown yard, and work areas. Construction methods, such as "drive and crush," "disc and roll," and "isolated cut and fill and roll," would be deployed to minimize the required volume of earth movement. These construction methods would be employed during Project construction to the extent feasible. Therefore, based on the approach of minimizing earth disturbances and the relatively level topography at the site, the Project would not substantively change topography or the ground surface relief features. As a result, any impact on topography or ground surface relief features would be less than significant.

Threshold h: Create cut or fill slopes greater than 2:1 or higher than 10 feet?

NO IMPACT. The Project does not include any grading or cut and fill activities that would create cut or fill slopes greater than 2:1 (horizontal to vertical) or higher than 10 feet. There would be no impact.

Threshold i: Result in grading that affects or negates subsurface sewage disposal systems?

LESS THAN SIGNIFICANT. The Project includes the proposed construction of an O&M facility that would require a septic wastewater treatment system. The planned septic system would be permitted through the County Department of Environmental Health, which includes a review process to ensure adequate drainage of wastewater. Prior to construction of the septic system, percolation testing would be required for the proposed location of the septic system to ensure that observed percolation of water can meet minimum standards set by the County. Therefore, based on existing site characteristics and adherence to current septic system testing and code requirements, the potential for soils incapable of adequately supporting the use of septic wastewater would be minimized and the potential impact would be less than significant.

Threshold j: Result in substantial soil erosion or the loss of topsoil?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The majority of the Project site has nearly level to gently sloping topography based on former agricultural uses although the site is presently fallow.

Construction of the project site would involve earth-disturbing activities that could expose soils to the effects of wind or water erosion. Although the project site consists of relatively flat topography and substantial cut and fill operations are unlikely to be necessary, earthmoving and construction activities could loosen soil, and the removal of existing minimal vegetation could contribute to soil loss and erosion. A SWPPP would be prepared and implemented per the requirements of the County. The SWPPP would detail that existing vegetation and topography are to be preserved to the maximum extent possible. The SWPPP would also specify various types of BMPs including erosion control BMPs to prevent soil from moving off site; all temporary erosion control measures required by the County would be incorporated into the SWPPP.

MM AQ-2 (Fugitive Dust Control Plan) would require a fugitive dust abatement plan that would mitigate the dust emissions during construction by implementing a suite of effective dust control practices, such as using soil stabilizers or watering exposed areas, which are also effective in minimizing erosion. In addition, as described in MM BIO-10 (Stream Protection and Compensation), existing hydrologic patterns would be maintained with respect to runoff, and washes, stream beds, and stream banks would be avoided to the extent possible during construction and decommissioning. Once constructed, the solar site would maintain sheet flow where possible, with water exiting the site consistent with the natural contours

and flows that currently exist at the site. With implementation of these MMs, impacts related to soil erosion would be less than significant.

Project operations would include the periodic cleaning of the panels with water, up to once per year. However, this is not expected to result in soil erosion because infrequency of these activities and the limited volumes of water involved; water is expected to infiltrate into the ground and not generate substantial erosion or soil loss. Project operations would not entail ground disturbance of area which has not previously been subjected to disturbance. As a result, project operation would have a less-than-significant impact with relation to soil erosion.

Sand migration, essentially a form of erosion, and active aeolian deposition processes are important geomorphic systems throughout Chuckwalla Valley that play a major role in the creation and establishment of sand dune formations. A relatively recent study (Kenney 2018, as cited in USGS 2021) reviewed the sand corridor throughout the Chuckwalla Valley and concluded that the sand transport system relies on local sand systems, rather than systems that cross the entire Chuckwalla Valley. Natural sand-transport corridors are necessary to allow sand to be transported eastward from the ephemeral stream channels and playas that supply sediment to the dunes, sand sheets, and sand ramps of Chuckwalla Valley for southward transport during episodic strong weather events (USGS 2021). However, these sand transport corridors were determined to not have defined boundaries and can shift both spatially and temporally based on seasonal changes.

While the natural hydrology of the Project site has been altered by past farming activities (including mixed-use agricultural practices, jojoba cultivation and aquaculture farming), northeasterly-flowing ephemeral streams and washes that fan out from the Eagle Mountains in the west flow through and around the Project site. Dune sands were not identified as a geologic unit located at the site in the Geological Report, and pre-existing soils at the site were removed and/or disturbed by agricultural activities. Therefore, there is no indication that the site includes any significant sources of sand transport and would not likely result in a loss of sand source material. Construction of the Project would also still allow water to flow through the Project site and continue to allow stabilizing moisture to reach its destination.

Therefore, even though site soils are susceptible to erosion, with implementation of dust control measures required by MM AQ-2 combined with erosion control requirements found within MM BIO-10, ground-disturbing activities would have a less-than-significant impact related to erosion and loss of topsoil. Therefore, impacts would be less than significant with mitigation incorporated.

Threshold k: Be located on expansive soil, as defined in Section 1803.5.3 of the California Building Code (2022), creating substantial direct or indirect risks to life or property?

LESS THAN SIGNIFICANT. The underlying soils of the Project site were determined to have a moderate to high potential for expansion (Appendix B). However, adherence to building code requirements, including Chapter 18 of the CBC, would require that a final design-level geotechnical report present the approach to address any expansive soils that may be present on site such as through over-excavation and replacement with non-expansive soil, moisture control, soil mixing, lime treatment, or development of specific structural design for expansive conditions. Adherence to these geotechnical recommendations provided by a licensed geotechnical engineer in accordance with building code requirements would reduce potential impacts of expansive soils to less-than-significant levels.

Threshold l: Have soils incapable of adequately supporting use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

LESS THAN SIGNIFICANT. The Project does include construction of a septic system for disposal of wastewater. The proposed septic system would be required to meet all permit requirements from the County Department of Environmental Health Services, which include ensuring that the system would be placed in soils capable of adequately supporting the septic system. According to the Geological Desktop Evaluation, the existing soils at the site are expected to be able to support a septic system. As a result, the potential impact would be less than significant.

Threshold m: Be impacted by or result in an increase in wind erosion and blow sand, either on or off site?

LESS THAN SIGNIFICANT. As noted above, Chuckwalla Valley is characterized by an arid climate with a dynamic sand transport system that moves sand deposits around the valley. According to a USGS study, the sand-migration corridors do not have fixed boundaries in the valley and cannot readily be defined over small spatial scales, especially after large weather events (USGS 2021). Instead, the sand transport corridors are dynamic spatially and temporally, which can shift based on seasonal changes. A general framework of west-to-east winds produces sand migration that includes sediment from alluvial channels downwind to the east, occasionally and locally also to the south, and is recycled repeatedly between alluvial channels and aeolian deposits (USGS 2021). The Project would allow any sand transport to continue to occur and pass through the site during times when active sand transport corridors intersect the site. According to the Bureau of Land Management mapping for the Desert Renewable Energy Conservation Plan Gateway, the Project site is located outside of an aeolian and sand transport area (BLM 2023). In addition, the solar panels would be mounted on relatively unobtrusive steel support posts that would not substantively increase wind erosion or blow sand on or off site. The 3,600-square-foot O&M building would also represent a relatively minor aboveground improvement. Any buildup of windblown sand on any of the proposed aboveground improvements (e.g., solar panels, O&M building, battery storage area) may require some minor maintenance that would be included as part of anticipated maintenance activities but is not likely to be substantively impacted by wind erosion or blow sand. As a result, any impact from wind erosion and blown sand would be less than significant.

Cumulative Impacts

Cumulative projects listed in Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario, would be subject to relatively similar seismic hazards as that of the Project. However, the effects of these projects are not of a nature to cause cumulatively significant effects from geologic impacts or on soils because such impacts are site specific and would only have the potential to combine with impacts of the Project if they occurred in the same location as the Project.

As discussed in Threshold “a” above, development of the Project, would not be subject to fault rupture hazards since it is not located within a Alquist-Priolo Fault Hazard Zone, and thus would result in a less-than-significant impact related to exposing persons or structures to adverse effects. Fault rupture hazards are entirely dependent on site location. Therefore, since the Project site is not located within an Alquist-Priolo Fault Hazard Zone, it could not combine with other cumulative projects to become cumulatively considerable and there would be no cumulative impact.

As discussed in Threshold “b” above, development of the Project, with implementation of the regulatory requirements discussed above, would result in less-than-significant impacts related to exposing persons or structures to seismic hazards including ground failure and liquefaction. Although the entire region is a seismically active area, geologic and soil conditions vary widely within a short distance, making the

cumulative context for potential impacts resulting from exposing people and structures to related risks one that is more localized or even site-specific. Similar to the Project, other projects in the area would be required to adhere to the same California and Riverside County Building Codes, which would reduce the risk to people and property from any localized hazards such as ground failure and liquefaction to less-than-significant levels. While future seismic events cannot be predicted, adherence to all federal, State, and local programs, requirements, and policies pertaining to building safety and construction would limit the potential for cumulative impacts related to injury or damage to a less-than-significant level.

As discussed in Thresholds "c" above, development of the Project, with implementation of the regulatory requirements discussed above, would result in less-than-significant impacts related to exposing persons or structures to strong seismic ground shaking. As stated above, the entire region is a seismically active area where conditions vary widely within a short distance, making the cumulative context for potential impacts resulting from ground shaking hazards more localized or even site-specific. Similar to the Project, other projects in the area would be required to adhere to the same California and Riverside County Building Codes, which would reduce the risk to people and property from ground shaking hazards to less-than-significant levels. While future seismic events cannot be predicted, adherence to all federal, State, and local programs, requirements, and policies pertaining to building safety and construction would limit the potential for cumulative impacts related to injury or damage to a less-than-significant level.

As discussed in Threshold "d" above, with implementation of the regulatory requirements, the Project would result in less-than-significant impacts related to exposing persons or structures to adverse effects due to unstable soils such as landslides, lateral spreading, collapse or rockfall hazards. Cumulative projects all have varying underlying soil conditions and hazards associated with unstable soils such as landslides, lateral spreading, collapse, rockfalls, and subsidence are generally site specific. All projects, just as with the Project, would be required to adhere to the same California and Riverside County Building Codes, which would reduce the risk to people and property from any localized hazards such as landslides, lateral spreading, collapse, and rockfalls, to less-than-significant levels for each cumulative project such that cumulative effects would be less than significant.

As discussed in Threshold "e" above, adherence to building code requirements combined with relatively stable groundwater levels in the area make the potential for unstable soils and subsidence a less-than-significant impact. Cumulative projects all have varying underlying soil conditions and hazards associated with unstable soils such as landslides, lateral spreading, collapse, rockfalls, and subsidence are generally site specific. All projects, just as with the Project, would be required to adhere to the same California and Riverside County Building Codes, which would reduce the risk to people and property from any localized hazards such as landslides, lateral spreading, collapse, and rockfall hazards to less-than-significant levels for each cumulative project such that cumulative effects would be less than significant.

As discussed above in Threshold "f" above, seiche hazards are entirely dependent on a project site location and proximity to enclosed or semi-enclosed bodies of water. As the Project site is not located adjacent or near to any such body water, it cannot contribute to a cumulative effect. As discussed above, the relatively flat topography of the Project site and surrounding area also does not make it susceptible to mudflow hazards. In addition, as with seiche hazards, volcanic hazards are also entirely dependent on location. As the Project site is not within an identified volcanic hazard area, it cannot contribute to a cumulative effect. Therefore, the Project would not result in a cumulatively considerable contribution to this impact.

As discussed above in Threshold "g," changes in topography or ground surface features can become cumulatively significant if cumulative projects each contribute to grading that results in a significant change in topography. However, as noted above, the Project site and large expansive surrounding areas of the site are relatively level. Considering the minor grading involved on the largely flat existing

topography, implementation of the Project would not result in a cumulatively considerable contribution to this impact.

As discussed above in Threshold "h," the Project does not include any cut and fill activities that would create slopes approaching anywhere near 2:1 or 10 feet high and as a result the Project could not make a cumulative contribution and would have no cumulative impact.

As discussed above in Threshold "i," existing site characteristics and adherence to current septic system testing and code requirements, would reduce the potential impacts related to soils incapable of adequately supporting the use of septic wastewater to be less than significant. The ability of soils to adequately support the construction and installation of subsurface sewage disposal or septic systems is also site-specific. Similar to the Project, other projects in the area would be required to adhere to all County Public Health Code requirements related to septic or other alternative wastewater disposal systems. Therefore, the Project would not result in a cumulatively considerable contribution to this impact.

As discussed above in Threshold "j," with implementation of dust control measures required by MM AQ-2 combined with erosion control requirements found within MM BIO-10, ground-disturbing activities would have a less-than-significant impact related to erosion and loss of topsoil. While each cumulative project's soil disturbance could result in off-site water and wind erosion, each project has or would undergo an environmental review under the National Environmental Policy Act and/or CEQA as well as also be subject to existing regulatory requirements. As a result, each cumulative project would be required to abide by existing regulations such that they would have an erosion control plan, Drainage Plan, and SWPPP that would reduce wind and water erosion and prevent dust and soil from leaving each project's site., Therefore, because the BMPs that would be included in the SWPPP would minimize the potential for wind and water erosion and prevent any substantive off-site transport, the Project would not result in a cumulatively considerable contribution to this impact.

As discussed in Threshold "k," through adherence to geotechnical recommendations provided by a licensed geotechnical engineer, the Project would have less-than-significant impacts related to expansive soils. As with the other geologic hazards such as subsidence, collapse, and liquefaction, the hazards related to expansive soils are entirely dependent on site-specific conditions. Similar to the Project, each cumulative project would be required to adhere to current California and Riverside County building code requirements, which reduce the potential for adverse effects occurring from any presence of expansive soils. Therefore, the Project would not have a cumulatively considerable contribution to this impact and it would be considered less than significant.

As discussed above in Threshold "l," the Project would be subject to current septic system requirements, such that the potential impacts related to supporting septic disposal systems would be less than significant. The ability of soils to adequately support the construction and installation of subsurface sewage disposal or septic systems is also site-specific. Similar to the Project, other projects in the area would be required to adhere to all County Public Health Code requirements related to septic or other alternative wastewater disposal systems. Therefore, the Project would not result in a cumulatively considerable contribution to this impact.

Related to Threshold "m," development of the Project would allow any migration of sand currently occurring to continue and with typical maintenance activities, the impact related to increased wind erosion and blow sand would be less than significant. The cumulative projects listed in Tables 3.1-1 and 3.1-2 have or could impact the regional sand migration zone through directly or indirectly impeding sand transport, reducing the amount of sand that flows through the Chuckwalla Valley, or reducing the amount of water needed for sand migration. For cumulative projects that have already undergone environmental

review (i.e., Desert Sunlight, Desert Harvest, and Palen Solar Project), these documents were reviewed for any effects to sand transport; for cumulative projects that have not undergone environmental review, the cumulative projects were mapped against the geomorphic layer for sand from the DRECP. As noted in the DRECP, which amends the California Desert Conservation Area Plan, project-specific mapping may change the determination of effects on sand transport. Fencing and other infrastructure associated with the projects would impede sand transport and affect valuable habitat within this corridor, resulting in a cumulative blocking of the corridor along the western sides. While mitigation for existing projects or the Project under review and Conservation and Management Actions from the DRECP Land Use Plan Amendment for future projects would reduce the effects of each individual project permitted to the extent practicable, there would likely be a cumulatively significant impact. According to mapping compiled by the Bureau of Land Management, the Project site is not located within an aeolian and sand transport area (BLM 2023). Because the design of the Project would allow continued sheet flow and is proposed on former agricultural lands not located within an aeolian and sand transport area, the Project would not result in a cumulatively considerable contribution to this impact.

3.8.4 Mitigation Measures

The following Mitigation Measures were developed to substantially lessen the significant effects to geology and soils resources expected to result from the construction, operation, maintenance, and decommissioning of the Project.

MM AQ-2 **Fugitive Dust Control Plan.** *See full text in Section 3.4, Air Quality.*

MM BIO-10 **Stream Protection and Compensation.** *See full text in Section 3.5, Biological Resources.*

3.8.5 References

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3.9 Greenhouse Gas Emissions

This section includes an analysis of the impacts of greenhouse gas (GHG) emissions that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning the proposed project (Project). The analysis in this section describes the applicable regulations, provides information on existing conditions, identifies the criteria used for determining the significance of environmental impacts, and describes the potential impacts from the Project's GHG emissions. Information contained in this section is based on publicly available data and reports from the California Air Resources Board (CARB), U.S. Environmental Protection Agency (EPA), Intergovernmental Panel on Climate Change (IPCC), and South Coast Air Quality Management District (SCAQMD), as well as the following:

Appendix F Air Quality, Greenhouse Gas Emissions, and Energy Technical Report for the Sapphire Solar Project, Riverside County, California, prepared by Dudek

3.9.1 Regulatory Framework

The key federal, state, and local laws and regulations applicable to GHG emissions are identified and summarized in this section.

Federal Laws, Regulations, and Policies

Massachusetts v. EPA

In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the EPA administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The EPA administrator found that elevated concentrations of GHGs—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. This is the "endangerment finding."
- The EPA administrator further found that the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act (42 USC Section 7401).

Energy Independence and Security Act

The Energy Independence and Security Act of 2007 (Public Law 110-140), among other key measures, included the following measures to aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks

- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy-efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances

Federal Vehicle Standards

In 2007, in response to the *Massachusetts v. EPA* U.S. Supreme Court ruling, the Bush Administration issued Executive Order (EO) 13432 directing EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012 through 2016 (75 FR 25324–25728).

In 2010, President Obama issued a memorandum directing the Department of Transportation, the Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017 through 2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017 through 2021 (77 FR 62624–63200). On January 12, 2017, EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014 through 2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles (76 FR 57106–57513).

In August 2016, EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons (MT) and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

On April 2, 2018, EPA, under administrator Scott Pruitt, reconsidered the final determination for light-duty vehicles and withdrew its previous 2017 determination, stating that the current standards may be too stringent and therefore should be revised as appropriate (EPA 2018).

In August 2018, EPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards then in place, the 2018 proposal would increase U.S. fuel consumption by about half a million barrels per day (2% to 3% of total daily consumption, according to the Energy Information Administration) and would impact the global climate by 3/1000th of 1°C by 2100 (EPA and NHTSA 2018).

In 2019, EPA and NHTSA published the Safer Affordable Fuel-Efficient Vehicles Rule Part One: One National Program (SAFE-1) (84 FR 51310), which revoked California's authority to set its own GHG emissions standards and set zero-emission vehicle (ZEV) mandates in California. In March 2020, Part Two was issued,

which set CO_2 emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. In March 2022, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards and ZEV sales mandate. EPA's action concludes its reconsideration of the 2019 SAFE-1 rule by finding that the actions taken under the previous administration as a part of SAFE-1 were decided in error and are now entirely rescinded.

Inflation Reduction Act of 2022

The Inflation Reduction Act was signed into law by President Biden in August 2022. The bill includes specific investment in energy and climate reform and is projected to reduce GHG emissions within the United States by 40% as compared to 2005 levels by 2030. The bill allocates funds to boost renewable energy infrastructure (e.g., solar panels and wind turbines), includes tax credits for the purchase of electric vehicles (EVs), and includes measures that will make homes more energy efficient.

40 CFR Part 98, Mandatory Reporting of Greenhouse Gases Rule

This rule requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 MT CO_2e emissions per year. Additionally, reporting of emissions is required for owners of SF6- and PFC-insulated equipment when the total nameplate capacity of these insulating gases is above 17,280 pounds. The Project would not be expected to trigger GHG reporting according to the rule.

40 CFR Part 52, Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule

The EPA mandated to apply Prevention of Significant Deterioration (PSD) requirements to facilities whose stationary source CO_2e emissions exceed 75,000 tons per year. The Project would not be expected to trigger PSD permitting as required by this regulation; however, GHG emissions of the Project are quantified in this EIR.

Fuel Efficiency Standards for Construction Equipment

The federal government sets fuel efficiency standards for off-road diesel engines that are used in construction equipment. The regulations, contained in 40 CFR Parts 1039, 1065, and 1068, include multiple tiers of emission standards. Most recently, the EPA adopted a comprehensive national program to reduce emissions from off-road diesel engines by integrating engine and fuel controls as a system to gain the greatest reductions.

State Laws, Regulations, and Policies

The statewide GHG emissions regulatory framework is summarized in this subsection by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, water, solid waste, and other state actions. The following text describes EOs, Assembly Bills (ABs), Senate Bills (SBs), and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

Assembly Bill 32

In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006 (California Health and Safety Code Sections 38500-38599 et seq.). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California's GHG

emissions at 1990 levels by 2020, and initiate the transformations required to achieve the state's long-range climate objectives.

Senate Bill 32 and Assembly Bill 197

SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions-reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to the Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emissions-reduction measures when updating the scoping plan.

Executive Order S-3-05

EO S-3-05 (June 2005) established California's GHG emissions-reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80% below 1990 levels

EO S-3-05 also directed the California Environmental Protection Agency to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry.

Executive Order B-30-15

EO B-30-15 (April 2015) identified an interim GHG-reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050, as set forth in S-3-05. To facilitate achieving this goal, EO B-30-15 called for CARB to update the Scoping Plan to express the 2030 target in terms of million metric tons (MMT) of carbon dioxide equivalent (CO_2e). The EO also called for state agencies to continue to develop and implement GHG emission-reduction programs in support of the reduction targets.

California Air Resources Board's Climate Change Scoping Plan

One specific requirement of AB 32 is for CARB to prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (California Health and Safety Code Section 38561[a]), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan—The Climate Change Proposed Scoping Plan: A Framework for Change (Scoping Plan). The Scoping Plan included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission-reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state's long-range climate objectives.

In 2014, CARB approved the first update to the Scoping Plan. The First Update to the Climate Change Scoping Plan: Building on the Framework (First Update) defined the state's GHG emission reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EOs S-3-05 and B-16-2012 (CARB 2014). The First Update concluded that California was on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050, including energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

In December 2017, CARB released the 2017 Climate Change Scoping Plan Update (Second Update) for public review and comment (CARB 2017a). The Second Update built upon the successful framework established in the initial Scoping Plan and First Update, while identifying new technologically feasible and cost-effective strategies that served as the framework to achieve the 2030 GHG target and define the state's climate change priorities to 2030 and beyond. The strategies' "known commitments" included implementing renewable energy and energy efficiency (including the mandates of SB 350), increased stringency of the Low Carbon Fuel Standard (LCFS), measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increased stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, the Second Update recommended continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20%. The Second Update was approved by CARB's Governing Board on December 14, 2017.

In December 2022, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality, which outlines the state's plan to reduce anthropogenic emissions to 85% below 1990 levels by 2045 and achieve carbon neutrality by 2045 or earlier. The plan also assesses the progress the state is making toward reducing GHG emissions by at least 40% below 1990 levels by 2030, as is required by SB 32 and laid out in the Second Update. The carbon neutrality goal requires CARB to expand proposed actions from only the reduction of anthropogenic sources of GHG emissions to also include those that capture and store carbon (e.g., through natural and working lands, or mechanical technologies). The carbon reduction programs build on and accelerate those currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing use of chemicals and refrigerants with high global warming potential (GWP); providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen[1]. The 2022 Scoping Plan for Achieving Carbon Neutrality also introduces stringent per capita vehicle miles traveled reductions of 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045 (CARB 2022a).

The 2022 Scoping Plan for Achieving Carbon Neutrality also emphasizes that there is no realistic path to carbon neutrality without carbon removal and sequestration and, to achieve the state's carbon neutrality goal, carbon reduction programs must be supplemented by strategies to remove and sequester carbon. Strategies for carbon removal and sequestration include carbon capture and storage from anthropogenic point sources, where CO_2 is captured as it leaves a facility's smokestack and is injected into geologic formations or used in industrial materials (e.g., concrete); and carbon dioxide removal from ambient air,

[1] Green hydrogen refers to hydrogen that is generated by renewable energy or from low-carbon power, and has significantly lower associated carbon emissions than grey hydrogen, which is produced using natural gas and makes up the majority of hydrogen production. For the purposes of the Draft 2022 Scoping Plan, the term "green hydrogen" is not limited to only electrolytic hydrogen produced from renewables.

through mechanical (e.g., direct air capture with sequestration) or nature-based (e.g., management of natural and working lands) applications.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32, AB 1279, and the EOs; it also establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. A project is considered consistent with the statutes and EOs if it would meet the general policies in reducing GHG emissions to facilitate the achievement of the state's goals and would not impede attainment of those goals.

California Air Resources Board's Regulations for the Mandatory Reporting of Greenhouse Gas Emissions

CARB's Regulation for the Mandatory Reporting of GHG Emissions (CCR Title 17, Section 95100–95157) incorporated by reference certain requirements that EPA promulgated in its Final Rule on Mandatory Reporting of GHG (40 CFR Section 98). Specifically, Section 95100(c) of the Mandatory Reporting Regulation incorporated those requirements that EPA promulgated in the Federal Register on October 30, 2009; July 12, 2010; September 22, 2010; October 28, 2010; November 30, 2010; December 17, 2010; and April 25, 2011. In general, entities subject to the Mandatory Reporting Regulation that emit more than 10,000 MT CO_2e per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emission levels. Entities that emit more than the 25,000 MT CO_2e per year threshold are required to have their GHG emissions report verified by a CARB-accredited third party.

Executive Order B-18-12

EO B-18-12 (April 2012) directed state agencies, departments, and other entities under the governor's executive authority to take action to reduce entity-wide GHG emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline. EO B-18-12 also established goals for existing state buildings for reducing grid-based energy purchases and water use.

Senate Bill 605 and Senate Bill 1383

SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants (SLCPs) in the state (California Health and Safety Code Section 39730); and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018 (California Public Resources Code [PRC], Sections 42652–43654). SB 1383 also establishes specific targets for the reduction of SLCPs (40% below 2013 levels by 2030 for CH_4 and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon) and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy in March 2017, which establishes a framework for the statewide reduction of emissions of black carbon, methane, and fluorinated gases (CARB 2017b).

Assembly Bill 1279

The Legislature enacted AB 1279, the California Climate Crisis Act, in September 2022. The bill declares the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter.

Although AB 1279 establishes an overall policy to achieve net zero GHG emissions as soon as possible, but no later than 2045, recognizing the need to implement carbon dioxide removal and carbon capture, utilization, and storage technologies, the Legislature established a specific target of 85% below 1990 levels

by 2045 for anthropogenic GHG emissions. Therefore, the net zero target does not directly apply to development projects, but the 2045 target of 85% below 1990 levels represents the reductions required to accomplish the state's overall net zero policy.

Building Energy

California Code of Regulations, Title 24, Part 6

The California Building Standards Code was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure that new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every 3 years by the Building Standards Commission and the California Energy Commission (CEC), and revised if necessary (PRC Section 25402(b)(1)). The regulations receive input from members of industry, as well as the public, to "reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (PRC Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (PRC Section 25402(d)) and cost effectiveness (PRC Section 25402(b)(2–3)). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment. The current Title 24 standards are the 2022 Title 24 building energy efficiency standards, which became effective January 1, 2023.

When compared to the 2019 Title 24 Standards, the 2022 amendments include measures that will further reduce energy use in single family, multifamily, and nonresidential buildings through the following strategies (CEC 2021):

- New prescriptive and performance standards for electric heat pumps for space conditioning and water heating, as appropriate for the various climate zones in California
- Require photovoltaic and battery storage systems for newly constructed multifamily and selected nonresidential buildings
- Updated efficiency measures for lighting, building envelope, heating, ventilation, and air conditioning
- Improvements to reduce the energy loads of certain equipment subject to the requirements of the Energy Code that perform a commercial process that is not related to the occupant needs in the building (such as refrigeration equipment in refrigerated warehouses, or air conditioning for computer equipment in data processing centers)

California Code of Regulations, Title 24, Part 11

In addition to CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (CALGreen) (Part 11 of Title 24) establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings and schools and hospitals. The 2022 CALGreen standards are the current applicable standards. For nonresidential projects, some of the key mandatory CALGreen 2022 standards involve requirements related to bicycle parking, designated parking for clean air vehicles, EV charging stations, shade trees, water-conserving plumbing fixtures and

fittings, outdoor potable water use in landscaped areas, recycled water supply systems, construction waste management, excavated soil and land clearing debris, and commissioning (CCR Title 24, Part 11).

California Code of Regulations, Title 20

Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency (CCR Title 20, Sections 1401–1410 et seq.). CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations and that appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: (1) federal and state standards for federally regulated appliances, (2) state standards for federally regulated appliances, and (3) state standards for non-federally regulated appliances.

Senate Bill 1

SB 1 (2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts (MW) through 2016. SB 1 added sections to the PRC, including Chapter 8.8 (California Solar Initiative) that requires building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements (PRC Sections 25780–25784 et seq.). Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for both homes and businesses within 10 years of adoption and placing solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "Go Solar California," was previously titled "Million Solar Roofs."

Assembly Bill 1470 (Solar Water Heating)

AB 1470 established the Solar Water Heating and Efficiency Act of 2007 (California Public Utilities Code Sections 2851–2869 et seq.). The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand.

Assembly Bill 1109

AB 1109 (2007) required CEC to adopt minimum energy efficiency standards for general-purpose lighting to reduce electricity consumption by 50% for indoor residential lighting and by 25% for indoor commercial lighting (PRC Section 25402.5.4).

Renewable Energy and Energy Procurement

Senate Bill 1078

SB 1078 (2002) (California Public Utilities Code Section 399.11 et seq.) established the Renewables Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was

subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (see SB 107, EO S-14-08, and EO S21-09).

Senate Bill 1368

SB 1368 (2006) required CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities (California Public Utilities Code Section 8340-8341 et seq.). These standards must be consistent with the standards adopted by the California Public Utilities Commission (CPUC).

Executive Order S-14-08

EO S-14-08 (2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO required that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020. Furthermore, the EO directed state agencies to take appropriate actions to facilitate reaching this target. The California Natural Resources Agency (CNRA), through collaboration with CEC and the California Department of Fish and Wildlife, was directed to lead this effort.

Executive Order S-21-09 and Senate Bill X1-2

EO S-21-09 (2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB was further directed to work with CPUC and CEC to ensure that the regulation builds upon the RPS program and was applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB was to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health, and those that can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard; however, this regulation was not finalized because of subsequent legislation (SB X1-2) signed by Governor Brown in April 2011.

SB X1-2 expanded RPS by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 MW or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location.

SB X1-2 applies to all electricity retailers in the state, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All these entities must meet the renewable energy goals listed above.

Senate Bill 350

SB 350 (2015) further expanded the RPS program by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires CPUC, in consultation with CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

Senate Bill 100

SB 100 (2018) increased the standards set forth in SB 350, requiring that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be accomplished through resource shuffling.

Senate Bill 1020

SB 1020 (September 2022) revises the standards from SB 100, requiring the following percentage of retail sales of electricity to California end-use customers come from eligible renewable energy resources and zero-carbon resources:

- 90% by December 31, 2035
- 95% by December 31, 2040
- 100% by December 31, 2045

Mobile Sources

State Vehicle Standards (Assembly Bill 1493 and Executive Order B-16-12)

AB 1493 (July 2002) was enacted in response to the transportation sector accounting for more than half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. EO B-16-12 (March 2012) required that state entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. It ordered CARB, CEC, CPUC, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve goals established for 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

Heavy-Duty Diesel

CARB adopted the final Heavy-Duty Truck and Bus Regulation on December 31, 2014, to reduce diesel particulate matter, a major source of black carbon, and oxides of nitrogen emissions from heavy-duty diesel vehicles (CCR Title 13, Section 2025). The rule requires diesel particulate matter filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule will require nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxic Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (CCR Title 13, Section 2485).

Executive Order S-1-07

EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining LCFS for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 (CCR Title 17, Section 95480 et seq.). The carbon intensity measures the amount of GHG emissions in the life cycle of a fuel—including extraction/feedstock production, processing, transportation, and final consumption—per unit of energy delivered.

Senate Bill 375

SB 375 (California Government Code Section 65080 amendment, 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG-reduction targets for the automobile and light-truck sector for 2020 and 2035, and to update those targets every 8 years. SB 375 requires the state's 18 regional metropolitan planning organizations (MPOs) to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP) that will achieve the GHG-reduction targets set by CARB. If an MPO is unable to devise an SCS to achieve the GHG-reduction target, then the MPO must prepare an Alternative Planning Strategy demonstrating how the GHG-reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

An SCS does not: (1) regulate the use of land; (2) supersede the land use authority of cities and counties; or (3) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it (California Government Code Section 65080[b][2][K]). Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program

The Advanced Clean Cars (ACC) I program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package of regulations: the Low-Emission Vehicle regulation for criteria air pollutant and GHG emissions, and a technology forcing regulation for ZEVs that contributes to both types of emission reductions (CARB 2022a). The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars. To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold in 2015. The ZEV program will act as the focused technology of the ACC I program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid EVs in the 2018 to 2025 model years. The ACC II program is currently in development to establish the next set of low-emission vehicle and ZEV requirements for model years after 2025 to contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality standards (CARB 2022a). The main objectives of ACC II are:

1. Maximize criteria and GHG emission reductions through increased stringency and real-world reductions
2. Accelerate the transition to ZEVs through both increased stringency of requirements and associated actions to support wide-scale adoption and use

An ACC II rulemaking package, which will consider technological feasibility, environmental impacts, equity, economic impacts, and consumer impacts, was presented to CARB for consideration in June and August 2022. This rulemaking was approved and filed with the Secretary of State on November 30, 2022 with an effective date of November 30, 2022.

Executive Order N-79-20

EO N-79-20 (September 2020) requires CARB to develop regulations as follows: (1) passenger vehicle and truck regulations requiring increasing volumes of new ZEVs sold in the state toward the target of 100% of in-state sales by 2035; (2) medium- and heavy-duty vehicle regulations requiring increasing volumes of new zero-emission trucks and buses sold and operated in the state toward the target of 100% of the fleet transitioning to ZEVs by 2045 everywhere feasible and for all drayage trucks to be zero emission by 2035; and (3) strategies, in coordination with other state agencies, EPA and local air districts, to achieve 100% zero-emission from off-road vehicles and equipment operations in the state by 2035. EO N-79-20 called for the development of a Zero-Emissions Vehicle Market Development Strategy, which was released February 2021, to be updated every 3 years, that ensures coordination and implementation of the EO and outlines actions to support new and used ZEV markets. In addition, the EO specifies identification of near-term actions and investment strategies to improve clean transportation, sustainable freight, and transit options; and calls for development of strategies, recommendations, and actions by July 15, 2021, to manage and expedite the responsible closure and remediation of former oil extraction sites as the state transitions to a carbon-neutral economy.

Advanced Clean Trucks Regulation

The Advanced Clean Trucks Regulation was also approved by CARB in 2020. The purpose of the regulation is to accelerate the market for ZEVs in the medium- and heavy-duty truck sector and to reduce air pollutant emissions generated from on-road mobile sources (CARB 2021). The regulation has two components, including (1) a manufacturer sales requirement and (2) a reporting requirement:

- Zero-emission truck sales: Manufacturers who certify Class 2b–8 chassis or complete vehicles with combustion engines will be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b–3 truck sales, 75% of Class 4–8 straight truck sales, and 40% of truck tractor sales.
- Company and fleet reporting: Large employers, including retailers, manufacturers, brokers, and others, will be required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, will be required to report about their existing fleet operations. This information will help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

Water

Senate Bill X7-7

SB X7-7, or the Water Conservation Act of 2009, required that all water suppliers increase their water use efficiency with an overall goal of reducing per capita urban water use by 20% by December 31, 2020. Each urban water supplier was required to develop water use targets to meet this goal.

Executive Order B-29-15

In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

Executive Order N-10-21

In response to a state of emergency due to severe drought conditions, EO N-10-21 (July 2021) called on all Californians to voluntarily reduce their water use by 15% from their 2020 levels. Actions suggested in EO N-10-21 include reducing landscape irrigation, running dishwashers and washing machines only when full, finding and fixing leaks, installing water-efficient showerheads, taking shorter showers, using a shut-off nozzle on hoses, and taking cars to commercial car washes that use recycled water.

Solid Waste

Assembly Bill 939, Assembly Bill 341, Assembly Bill 1826, and Senate Bill 1383

In 1989, AB 939, known as the Integrated Waste Management Act (PRC Section 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board (replaced in 2010 by the California Department of Resources Recycling and Recovery, or CalRecycle), which oversees a disposal reporting system. AB 939 required jurisdictions to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required CalRecycle to develop strategies to achieve the state's policy goal. CalRecycle has conducted multiple workshops and published documents that identify priority strategies that it believes would assist the state in reaching the 75% goal by 2020.

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

SB 1383 (2016) requires a 50% reduction in organic waste disposal from 2014 levels by 2020, and a 75% reduction by 2025—essentially requiring the diversion of up to 27 million tons of organic waste—to reduce GHG emissions. SB 1383 also requires that not less than 20% of edible food that is currently disposed of be recovered for human consumption by 2025.

Other State Actions

Senate Bill 97

SB 97 (2007) directed the Governor's Office of Planning and Research and CNRA to develop guidelines under the California Environmental Quality Act (CEQA) for the mitigation of GHG emissions. In 2008, the Governor's Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents (OPR 2008). The advisory, which was updated most recently in 2018, indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2018). The advisory further recommended that the lead agency determine the significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (CCR Title 14, Section 15064.4[a]). The CEQA Guidelines require a lead agency to consider 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 (CCR Title 14, Section 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures (CCR Title 14, Section 15126.4[c]). The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledged that a lead agency could consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009).

With respect to GHG emissions, CEQA Guidelines Section 15064.4(a), as subsequently amended in 2018, states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines now note that an agency "shall have discretion to determine, in the context of a particular project, whether to: (1) [q]uantify GHG emissions resulting from a project; and/or (2) [r]ely on a qualitative analysis or performance-based standards" (CCR Title 14, Section 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (CCR Title 14, Section 15064.4[b]).

Executive Order S-13-08

EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009 and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014. To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: Agriculture, Biodiversity and Habitat, Emergency Management, Energy, Forestry, Ocean

and Coastal Ecosystems and Resources, Public Health, Transportation, and Water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016. In January 2018, the CNRA released the Safeguarding California Plan: 2018 Update, which communicates current and needed actions that state government should take to build climate change resiliency.

Local Laws, Regulations, and Policies

South Coast Air Quality Management District

Air districts typically act in an advisory capacity to local governments in establishing the framework for environmental review of air pollution impacts under CEQA. This may include recommendations regarding significance thresholds, analytical tools to estimate emissions and assess impacts, and mitigations for potentially significant impacts. Although air districts will also address some of these issues on a proposed project-specific basis as responsible agencies, they may provide general guidance to local governments on these issues (SCAQMD 2008). As discussed in Section 3.9.3, Impact Analysis, the SCAQMD has recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development proposed projects; however, these thresholds were not adopted. See Section 3.4, Air Quality, for additional discussion on the SCAQMD.

County of Riverside

General Plan

Riverside County (County) is committed to providing a more livable, equitable, and economically vibrant community through the incorporation of sustainability features and reduction of GHG emissions. In response to the growing regulatory requirements from both state and federal governments, a GHG reduction strategy was developed for the County to establish specific goals and policies that incorporate environmental responsibility into its daily management. The GHG reduction strategies outlined in the Air Quality Element of the General Plan establish that County activities and approvals ensure individual actions do not emit significant amounts of GHGs and that the emissions from the individual actions do not contribute to cumulatively significant GHG emissions (County of Riverside 2018). The Air Quality Element lists 62 individual action items aimed at reducing GHG emissions within the County, including development and incorporation of a Climate Action Plan (CAP).

Climate Action Plan

The General Plan includes the County's CAP, adopted on December 8, 2015, which contains further guidance on the County's GHG Inventory reduction goals, thresholds, policies, guidelines, and implementation programs. The most recent update was adopted in November 2019 (County of Riverside 2019). In particular, the CAP elaborates on the General Plan goals and policies relative to GHG emissions and provides a specific implementation tool to guide future decisions of the County.

Per the CAP Update, the County's 2017 GHG emissions totaled 4,905,518 MT CO_2e for that year. Under the business-as-usual (BAU) forecast, emissions will be 5,158,305 MT CO_2e in 2020; 6,368,781 MT CO_2e in 2030; and 11,305,026 MT_2e in 2050. These emissions levels are 5.1% higher in 2020 than 2017, 29.8% higher in 2030 than 2017, and more than double 2017 emissions by 2050. Under the adjusted BAU forecast (which represents state efforts in reducing GHG emissions within the County), emissions will be 4,861,256 MT CO_2e in 2020; 4,102,109 MT CO_2e in 2030; and 4,175,146 MT CO_2e in 2050. Compared to 2017, these emissions levels are 0.9% lower in 2020, 16.0% lower in 2030, and 14.8% lower in 2050.

The CAP Update assesses the previous GHG reduction targets identified in the 2015 CAP and proposes new targets that are consistent with the state policies to meet the requirements of SB 32. The state recommends a 15% reduction below 2005–2008 baseline levels by 2020, a 49% reduction below 2008 levels by 2030, and an 80% reduction below 2008 levels by 2050.

The County's CAP is a qualified GHG reduction plan under CEQA Guidelines Section 15183.5, and thus it can be used in a cumulative impacts analysis to determine significance. This is further discussed under the subheading "Criteria for Determining Significance" in Section 3.9.3, below.

3.9.2 Environmental Setting

Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (i.e., decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2023a).

The greenhouse effect is the trapping and buildup of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-twentieth century and are the most significant driver of observed climate change (IPCC 2013; EPA 2023b). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system, which is discussed further under the subheading "Potential Effects of Climate Change" in Section 3.9.2, Environmental Setting on page 3.9-21.

Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code, Section 38505(g), for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include CO_2, CH_4,

N_2O, HFCs, PFCs, SF_6, and nitrogen trifluoride (NF_3). (See also CEQA Guidelines, Section 15364.5.) Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted into the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.[2]

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 include combustion of fuels such as coal, oil, natural gas, and wood and changes in land use.

Methane. CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (e.g., rockets, racecars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic, powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone-depleting substances (e.g., CFCs, HCFCs, and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the ozone depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, and the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

[2] The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (1995), IPCC Fourth Assessment Report (2007), CARB's "Glossary of Air Pollution Terms" (2023), and EPA's "Glossary of Climate Change Terms" (2016).

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the GWP. Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants that have been regulated and controlled in California for several decades to protect public health. CARB estimates that 2017 black carbon emissions were approximately 8 MT CO_2e, with the majority of anthropogenic sources coming from transportation—specifically heavy-duty vehicles. These emissions are expected to drop rapidly in the future as a result of the state's air quality programs and regulations addressing diesel engines and diesel fuels (CARB 2022a).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2023a). IPCC developed the GWP concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons of CO_2 equivalent (MT CO_2e).

The current version of the California Emissions Estimator Model (CalEEMod) (Version 2022.1.1.21) assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on IPCC's Fourth Assessment Report (IPCC 2007).

Greenhouse Gas Inventories and Climate Change Conditions

Global Inventory

Anthropogenic GHG emissions worldwide in 2020 (the most recent year for which data are available) totaled approximately 49,800 MMT of CO_2e, excluding land use change and forestry (PBL 2022). The top six GHG emitters include China, the United States, the Russian Federation, India, Japan, and the European Union, which accounted for approximately 60% of the total global emissions, or approximately 30,270 MMT CO_2e (PBL 2022). Table 3.9-1 presents the top GHG-emissions-producing countries.

Table 3.9-1. 2020 Six Top GHG Producer Countries

Emitting Countries	2020 GHG Emissions (MMT CO2e)a
China	14,300
United States	5,640
European Union	3,440
India	3,520
Russian Federation	2,210
Japan	1,160
Total	**30,270**

Source: Appendix F.
Notes: MMT CO_2e = million metric tons of carbon dioxide equivalent.
[a] GHG emissions do not include land use change and forestry-related GHG emissions.

National Inventory

Per the EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 to 2020 (EPA 2022), total United States GHG emissions were approximately 5,981.4 MMT CO_2e in 2020. The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 78.8% of total GHG emissions (4,715.7 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 92.1% of CO_2 emissions in 2020 (4,343 MMT CO_2). Relative to 1990, gross United States GHG emissions in 2020 were 7.3% lower, down from the high of 15.7% above 1990 levels in 2007. GHG emissions decreased from 2019 to 2020 by 9.0% (590.4 MMT CO_2e), and overall net emissions (including sinks) decreased 10.6% from 2019 to 2020 and 21.4% from 2005 levels (EPA 2022). The decline in emissions from 2019 to 2020 were largely due to the impacts of the coronavirus pandemic on travel and other economic activity (EPA 2023c).

State Inventory

According to California's 2000–2020 GHG emissions inventory (2022 edition), California emitted approximately 369.2 MMT CO_2e in 2020, including emissions resulting from out-of-state electrical generation (CARB 2022b). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high-GWP substances, and recycling and waste. Table 3.9-2 presents California GHG emission source categories and their relative contributions to the emissions inventory in 2020.

Between 2000 and 2019, per-capita GHG emissions in California have dropped from a peak of 14.0 MT per person in 2001 to 10.5 MT per person in 2019, representing an approximate 25% decrease. In addition, total GHG emissions in 2019 were approximately 7 MMT CO_2e lower than 2018 emissions (CARB 2022b).

Table 3.9-2. GHG Emissions Sources in California

Source Category	Annual GHG Emissions ($MMT CO_2e$)	Percent of Total[a]
Transportation	136.60	37%
Industrial uses	73.84	20%
Electricity generation[b]	59.07	16%
Residential and commercial uses	36.92	10%
Agriculture and Forestry	33.22	9%
High GWP substances	22.15	6%
Recycling and waste	7.38	2%
Total	**369.18**	**100%**

Source: Appendix F.
Notes: GHG = greenhouse gas; MMT CO_2e = million metric tons of carbon dioxide equivalent.
[a] Column may not add due to rounding.
[b] Includes emissions associated with imported electricity, which account for 18.46 MT CO_2e.

Local Inventory

The County developed a GHG emission inventory as part of its CAP (County of Riverside 2019). The GHG inventory includes all major sources of emissions attributable directly or indirectly to the County's government operations or activities within the community the County serves. Government GHG inventories include emissions resulting from County government operations. Community-wide GHG inventories include a broader range of emissions associated with both the activities within the community the County serves and the government operations.

Sources of emissions include on-road transportation from trips attributable to activities taking place within the County; off-road transportation from equipment related to agricultural, construction, industrial, lawn and garden, light commercial, and recreational activities; energy, including emissions from electricity and natural gas use; water supply, which includes indirect emissions from electrical consumption to pump and treat water imported to the County, and the energy used to collect, treat, convey, and distribute water within the County; wastewater, including sewage, urban runoff, and industrial or manufacturing runoff that requires electricity to pump and treat; solid waste management, which includes emissions from transportation to the landfill, operation of equipment at the landfill, and fugitive emissions from waste decomposition; aviation, including fuel for aircraft trips within the County; and agriculture, including emissions from enteric fermentation in livestock, manure management, crop cultivation, and field burning.

Table 3.9-3 shows the 2017 community-wide emissions as provided in the CAP.

Table 3.9-3. County of Riverside GHG Emissions by Source

Source	Annual GHG Emissions ($MT CO_2e$)	Percent of Total
On-road transportation	1,766,784	36%
Agriculture	1,670,954	34%
Energy (electricity and natural gas)	1,188,138	24%
Solid waste	204,365	4%
Water and wastewater	44,606	1%
Aviation	26,786	1%

Table 3.9-3. County of Riverside GHG Emissions by Source

Source	Annual GHG Emissions ($MT CO_2e$)	Percent of Total
Off-road sources	3,883	0%
Total	**4,905,518**	**100%**

Source: Appendix F.
Notes: MT CO_2e = metric tons of carbon dioxide equivalent per year.

Potential Effects of Climate Change

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply. The primary effect of global climate change has been a rise in average global tropospheric temperature. Reflecting the long-term warming trend since pre-industrial times, observed mean surface temperature for the decade 2006–2015 was approximately 0.87°C (33.6°F) higher than the average over the 1850–1900 period (IPCC 2018). Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Human activities are estimated to have caused approximately 1.0°C (1.8°F) of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C (1.4°F to 2.2°F) (IPCC 2018). Global warming is likely to reach 1.5°C (2.7°F) between 2030 and 2052 if it continues to increase at the current rate (IPCC 2018).

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The Office of Environmental Health Hazard Assessment identified various indicators of climate change in California, which are scientifically based measurements that track trends in various aspects of climate change. Many indicators reveal discernible evidence that climate change is occurring in California and is having significant, measurable impacts in the state. Changes in the state's climate have been observed, including an increase in annual average air temperature with record warmth from 2012 to 2016, more frequent extreme heat events, more extreme drought, a decline in winter chill, an increase in cooling degree days and a decrease in heating degree days[3], and an increase in variability of statewide precipitation (OEHHA 2018).

Warming temperatures and changing precipitation patterns have altered California's physical systems—the ocean, lakes, rivers, and snowpack—upon which the state depends. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the state's annual water supply. Impacts of climate on physical systems have been observed, such as high variability of snow-water content (i.e., amount of water stored in snowpack), decrease in snowmelt runoff, glacier change (loss in area), rise in sea levels, increase in average lake water temperature and coastal ocean temperature, and a decrease in dissolved oxygen in coastal waters (OEHHA 2018).

Impacts of climate change on biological systems, including humans, wildlife, and vegetation, have also been observed, including climate change impacts on terrestrial, marine, and freshwater ecosystems. As with global observations, species responses include those consistent with warming: elevational or latitudinal shifts in range, changes in the timing of key plant and animal life cycle events, and changes in the abundance of species and in community composition. Humans are better able to adapt to a changing

[3] "Degree days" measure the difference between the average daily temperature and the reference temperature of 65°F. "Cooling" degree days refers to temperatures higher than 65 °F, while "heating" degree days refers to temperatures lower than 65°F (OEHHA 2018).

climate than plants and animals in natural ecosystems. Nevertheless, climate change poses a threat to public health, as warming temperatures and changes in precipitation can affect vector-borne pathogen transmission and disease patterns in California, as well as the variability of heat-related deaths and illnesses. In addition, since 1950, the area burned by wildfires each year has been increasing.

CNRA has released four California Climate Change Assessments (2006, 2009, 2012, and 2018), which have addressed acceleration of warming across the state, more intense and frequent heat waves, greater riverine flows, accelerating sea level rise, more intense and frequent drought, more severe and frequent wildfires, more severe storms and extreme weather events, shrinking snowpack and less overall precipitation, and ocean acidification, hypoxia, and warming. To address local and regional governments' need for information to support action in their communities, the Fourth Assessment (CNRA 2018) includes reports for nine regions of the state, including the San Joaquin Region, where the Project is located. Key projected climate changes for the San Joaquin Valley Region include the following (CNRA 2018):

- Agriculture is one of the sectors most vulnerable to climate change as climate change will very likely result in more frequent and severe drought, as well as tighter water supply.
- Ecosystems in the San Joaquin Valley are highly vulnerable to climate change given existing anthropogenic stressors and the lack of organization of landscape-scale science, funding, and mitigation of adverse impacts within the region.
- Water resources within the San Joaquin Valley region will be severely impacted by climate change.
- Infrastructure in the San Joaquin Valley, including urban, water, and transportation systems may face increased stress from higher temperatures and extreme precipitation events, including droughts and floods.

Further details on the climate change impacts expected within the San Joaquin Valley region are discussed below for the relevant issue areas.

Agriculture. Some of the specific challenges faced by the agricultural sector and farmers include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought to destructive storm events; significant shifts in water availability and water quality; changes in pollinator life cycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests, and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production.

Biodiversity and Habitat. Specific climate change challenges related to biodiversity and habitat include species migration in response to climatic changes, range shift, and novel combinations of species; pathogens, parasites, and disease; invasive species; extinction risks; changes in the timing of seasonal life cycle events; food web disruptions; and threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss has occurred).

Energy. Specific climate change challenges for the energy sector include temperature, fluctuating precipitation patterns, increasing extreme weather events, and sea-level rise.

Forestry. The most significant climate change–related risk to forests is accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large-scale mortalities and combined with increasing temperatures have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts, and vegetation conversions.

Ocean and Coastal Ecosystems and Resources. Sea-level rise, changing ocean conditions, and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal

ecosystems in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea-level rise, in addition to more frequent and severe coastal storms and erosion, are threatening vital infrastructure such as roads, bridges, power plants, ports and airports, gasoline pipes, and emergency facilities, as well as negatively impacting the coastal recreational assets such as beaches and tidal wetlands.

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the twenty-first century. Changes in precipitation patterns affect public health primarily through potential for altered water supplies, and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity, and duration of extreme heat and heat waves are likely to increase the risk of mortality due to heat-related illness, as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness, such as asthma and allergies.

Transportation. Although the transportation industry is a source of GHG emissions, it is also vulnerable to climate change risks. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand, which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure, which can impair movement of peoples and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides, and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety.

Water. Climate change could seriously impact the timing, form, amount of precipitation, runoff patterns, and frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems, and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the wintertime. Increased risk of flooding has a variety of public health concerns, including water quality, public safety, property damage, displacement, and post-disaster mental health problems. Prolonged and intensified droughts can also negatively affect groundwater reserves and result in increased overdraft and subsidence. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality.

3.9.3 Impact Analysis

Methodology

Construction and Decommissioning

Construction of the Project would result in GHG emissions primarily associated with the use of off-road construction equipment, on-road haul and vendor (material delivery) truck trips, and worker vehicle trips. Emissions from construction of the Project were estimated using CalEEMod Version 2022.1.1.21[4] using a combination of CalEEMod default assumptions and Project-specific information provided by the Applicant

[4] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development projects. The model was developed for the California Air Pollution Control Officers Association in collaboration with multiple air districts across the state. Numerous lead agencies in the state, including the San Diego County Air Pollution Control District, use CalEEMod to estimate GHG emissions in accordance with CEQA Guidelines Section 15064.4(a)(1).

where available. All details for construction criteria air pollutants are discussed in Section 3.4 or in Appendix F of this Draft EIR, and are also applicable for the estimation of construction-related GHG emissions.

Water Use

In addition to the sources discussed in Section 3.4, the supply, conveyance, treatment, and distribution of water for Project construction would require use of electricity, which would result in associated indirect GHG emissions. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod because criteria pollutant emissions occur at the site of the power plant where the energy is generated, which is typically off site.

Per the Water Supply Assessment prepared for the Project (Appendix E), approximately 100 acre-feet to 300 acre-feet would be required during construction. CalEEMod default values for electricity intensity factors (i.e., kilowatt-hours per million gallons) together with the default emission factors for Southern California Edison (SCE) electricity (pounds CO_2e/megawatt-hours [MWh]) were applied to estimate the emissions associated with water supply during construction.

Refrigerants

Refrigerants from air conditioning systems in vehicles will also result in GHG emissions from worker, haul, and vendor mobile trips during construction. Refrigerant emissions were estimated in CalEEMod based on default assumptions for on-road mobile refrigerant leakage from air conditioning usage. Refrigerant assumptions used in CalEEMod are based on information provided by CARB, which uses a "top-down" approach from total emission inventory estimates and activity data to estimate average (i.e., statewide) leakage rates for light-duty and heavy-duty vehicles (CAPCOA 2022).

Per EPA's Significant New Alternatives Policy, certain refrigerants with high GWPs (e.g., HFC-134a) must be replaced with lower GWP alternatives. Starting in 2021, HFC-134a is forbidden in new light-duty vehicles and will be forbidden in all vehicles after 2026. Given this phaseout of high GWP refrigerants, the emissions associated with refrigerant leakage from on-road vehicles are expected to decrease over time as new vehicles are introduced and older vehicles are retired from the fleet (CAPCOA 2022).

Decommissioning

The Project has an anticipated Project life of 39 years, at which time the Applicant may choose to update site technology and recommission, or decommission the site and remove the systems and their components. Given that decommissioning activities would be similar the construction activities (i.e., use of the same types of equipment and same general activities), the quantified emissions from construction are used as a proxy for decommissioning activities. However, it would be anticipated that the decommissioning activities would be reduced from those estimated for the construction activities as the efficiencies of the construction equipment and on-road vehicles would be consistent with the future decommissioning year, which would require full compliance with stringent emissions standards for heavy-duty construction equipment resulting in anticipated substantial reductions in emissions from what is presented for construction activities.

Operation

CalEEMod was used to estimate potential Project-generated operational GHG emissions from area sources (landscape maintenance), energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment. All details for operational criteria air pollutants,

discussed in Section 3.4 and Section 2.4.2.2 of Appendix F of this Draft EIR, are also applicable for the estimation of operational-related GHG emissions.

Energy Use

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth) for the operations and maintenance (O&M) building. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant where the energy is generated, which is typically off site. CalEEMod default values for energy consumption were applied for the Project analysis. The energy use from nonresidential land uses is calculated in CalEEMod based on the Commercial Appliance Saturation Study (CAPCOA 2022).

In addition to the GHG emissions related to energy use for operation of the O&M building, there would also be energy used to keep the battery energy storage system (BESS) at optimal operating temperatures. It was assumed that approximately 31 kilowatt-hours of energy per day would be required for ventilation and air conditioning systems for the battery storage containers. Assuming ventilation and air conditioning would be required at all times (24 hours per day, 365 days per year), the system would require approximately 1,752 MWh per year of electricity. GHG emissions from BESS-related electricity use were estimated using the CalEEMod default projected emission factors (i.e., MT CO_2e/MWh) for SCE for operational year 2026.

Water Use

Per the Water Supply Assessment prepared for the Project, up to 9 acre-feet of water would be required for the annual panel washing and for operation of the O&M building. The supply, conveyance, treatment, and distribution of water for Project operation would require use of electricity, which would result in associated indirect GHG emissions. As with construction water use, CalEEMod default values for electricity intensity factors together with the default emission factors for SCE electricity were applied to estimate the emissions associated with water supply during operation.

Solid Waste

The Project would generate solid waste and, therefore, result in CO_2e emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste.

Refrigerants

Refrigerants are substances used in equipment for air conditioning and refrigeration. Most of the refrigerants used today are HFCs or blends thereof, which can have high GWP values. All equipment that uses refrigerants has a charge size (i.e., quantity of refrigerant the equipment contains), and an operational refrigerant leak rate, and each refrigerant has a GWP that is specific to that refrigerant. CalEEMod quantifies refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime, and then derives average annual emissions from the lifetime estimate.

SF_6 Leakage

During operations and maintenance, fugitive GHG emissions could also occur due to SF_6 gas leakage from the proposed substation and related electrical transmission and distribution equipment. SF_6 has a GWP of 23,900 using CO_2 at a reference value of 1 (IPCC 2007). The proposed substation would convert energy

produced by the solar panels from 34.5 kilovolts (kV) to 230 kV, and would include transformers, breakers, switchers, meters, and other related equipment that would contain SF_6 gas. It is estimated that the Project would maintain a total of 240 pounds of SF_6 gas at the substation. Although leakage is unlikely, for the purposes of the Project's emissions inventory, it was assumed that the breakers would have a maximum annual leak rate of 0.5% in accordance with the Institute of Electrical and Electronics Engineers' CC37.122 - Standard for High-Voltage Gas-Insulated Substations Rated Above 52 kV (IEEE 2021). Emissions from SF_6 gas are included as part of area source emissions.

Criteria for Determining Significance

Section VIII of Appendix G to the State CEQA Guidelines addresses typical adverse environmental effects of GHG emissions and includes the following threshold questions to evaluate a project's impacts due to GHG emissions. Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Significance thresholds, set forth in the County's Environmental Assessment Checklist, are derived from Section VIII of Appendix G to the State CEQA Guidelines (listed above), and state that the Project would have a significant impact due to GHG emissions if construction and/or operation of the Project would:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project, such as the Project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated on a project level under CEQA.

The County CAP includes measures developed to reduce emissions to 525,511 MT CO_2e by 2030 and 2,982,947 MT CO_2e by 2050 as compared to the adjusted BAU forecast (County of Riverside 2019). Mitigation of GHG emissions impacts during the development review process of projects provides a cost-effective way of implementing the GHG reduction strategies for reducing community-wide emissions associated with new development (County of Riverside 2019). The development review process procedures for evaluating GHG impacts and determining significance for CEQA purposes will be streamlined by (1) applying an emissions level that is determined to be less than significant for small projects, and (2) utilizing the Screening Tables to mitigate project GHG emissions that exceed the threshold level.

Projects have an option of preparing a project-specific technical analysis to quantify and mitigate GHG emissions. The CAP determined that the 90th percentile of projects ranged from 2,983 MT to 3,143 MT CO_2e per year. The 3,000 MT CO_2e per-year value is the low-end value within that range rounded to the nearest hundred tons of emissions and is used in defining small projects that are considered less than

significant and do not need to use the Screening Tables. A threshold level above 3,000 MT CO_2e per year is used to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions. Projects that are found to produce less than the 3,000 MT CO_2e per-year value would be found to be less than significant when combined with the efficiency measures below:

- Energy efficiency matching or exceeding the Title 24 requirements in effect as of January 2017
- Water conservation measures that match the CALGreen standards in effect as of January 2017

Environmental Impacts

This section includes an examination of the Project's environmental effects of GHG emissions per the County's Environmental Assessment Checklist and Appendix G of the State CEQA Guidelines identified above.

Threshold a: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

LESS THAN SIGNIFICANT.

Construction and Decommissioning Emissions

Construction of the Project would result in GHG emissions, which are primarily associated with the use of off-road construction equipment, haul trucks, on-road vendor trucks, water use, and worker vehicles.

CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 2.4.2.1 of Appendix F of this Draft EIR. Construction of the Project for the purposes of this report is assumed to commence in summer 2024 as this would be the earliest start to meet the stated COD assuming longest construction duration of up to 18 months. On-site sources of GHG emissions include off-road equipment, and off-site sources include vendor trucks and worker vehicles. Table 3.9-4 presents construction emissions for the Project from on-site and off-site emission sources.

Table 3.9-4. Estimated Annual Construction Greenhouse Gas Emissions – Unmitigated

	CO_2	CH_4	N_2O	R	CO_2e
Year			**Metric Tons Per Year**		
2024	4,161.97	0.12	0.25	2.96	4,241.52
2025	3,345.71	0.11	0.14	3.52	3,392.53
Total	**7,507.68**	**0.23**	**0.38**	**6.49**	**7,634.05**
			Amortized (39-year Project life)		*Amortized (39-year Project life)*

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; <0.01 = reported value less than 0.01.
Source: See Appendix F for complete results.
The values shown are the annual emissions reflect California Emissions Estimator Model "mitigated" output.
Totals may not add due to rounding.

As shown in Table 3.9-4, the estimated total GHG emissions during construction would be approximately 7,634 MT CO_2e over the construction period. Estimated Project-generated construction emissions amortized over 39 years would be approximately 196 MT CO_2e per year. As discussed previously, to provide a conservative analysis, it is assumed that decommissioning impacts are equal to construction impacts. As with Project-generated construction criteria air pollutant emissions, GHG emissions generated during construction and decommissioning of the Project would be short-term in nature, lasting only for the duration of the decommissioning period, and would not represent a long-term source of GHG

emissions. Therefore, GHG emissions associated with the construction and decommissioning of the Project are not anticipated to directly or indirectly create a significant impact on the environment.

Operational Emissions

Once operational, the Project would result in minimal GHG emissions from daily operation of the O&M building, annual panel washing, and mobile trips for worker travel and water delivery. However, operation of the Project as a source of renewable energy would also offset GHG emissions from displaced nonrenewable energy generation. Therefore, the total GHG emissions related to the Project would be the net of direct GHG emissions generated from operational activities and the GHG emissions displaced by the Project.

The 117 MW facility is expected to generate approximately 375,778 MWh of renewable energy per year, which would displace GHG emissions from nonrenewable energy that would otherwise be generated to satisfy demand in the region. Given that the penetration of renewable energy resources will increase overtime due to the state's RPS goals, the displacement of GHG emissions related to the Project will decrease as a function of time (related to the improvement in emissions intensity [i.e., MT CO_2e per MWh] as the grid introduces more renewable sources).

The GHG emissions benefit related to the Project was quantified over the lifetime of the Project (i.e., 39 years per preliminary Project information) using linear integration of additional renewable resources entering the SCE resource mix per the SB 100 RPS goals of 100% carbon-free energy by 2045. Over its expected lifetime, the proposed solar facility would generate approximately 15,031,120 MWh of renewable energy, which would displace approximately 593,428 MT of CO_2e, or 15,216 MT CO_2e annually. The annual Project-generated operational GHG emissions are summarized in Table 3.9-5, including the amortized construction and decommissioning GHG emissions, and the net emissions from annual displaced GHG emissions.

Table 3.9-5. Estimated Annual Operational Greenhouse Gas Emissions

	CO_2	CH_4	N_2O	R	CO_2e
Emission Source			**Metric Tons Per Year**		
Mobile	27.18	<0.01	<0.01	0.02	28.24
Area[1]	0.07	< 0.01	< 0.01	0.01	13.08
Energy[2]	725.73	0.07	0.01	<0.01	729.95
Water	1.84	0.02	< 0.01	< 0.01	2.52
Waste	0.30	0.03	< 0.01	< 0.01	1.05
Refrig.	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Off-Road	0.29	< 0.01	< 0.01	< 0.01	0.29
Stationary	76.54	< 0.01	< 0.01	< 0.01	76.80
Total Annual Operational Emissions	**831.96**	**0.12**	**0.01**	**0.02**	**851.92**
			Amortized 39-Year Construction and Decommissioning Emissions		196
				Total Annual Project Emissions	***1,243***
				Annual Displaced Emissions	*-15,216*
				Net Project Emissions	**-13,973**
				Threshold	3,000
				Threshold Exceeded?	No

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; <0.01 = reported emissions less than 0.01.
Source: See Appendix F for complete results.
Totals may not add due to rounding.
[a] Includes CO_2e emissions from SF_6 leakage from the substation.
[b] Includes energy loss from ventilation and air conditioning for BESS.

As shown in Table 3.9-5, annual operation of the Project would result in approximately 852 MT CO_2e per year. Combined with amortized construction and decommissioning emissions, the total annual GHG emissions resulting from Project implementation would be 1,243 MT CO_2e per year. The GHG emissions displaced from operation of the solar facility would offset these annual emissions by 15,216 MT CO_2e per year over the Project lifetime, resulting in an overall net emissions of -13,973 MT CO_2e, which represents a net decrease of CO_2e emissions with implementation of the Project. Given this decrease, impacts related to generation of GHG emissions either directly or indirectly would be **less than significant.**

Threshold b: Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

LESS THAN SIGNIFICANT.

Potential to Conflict with the County of Riverside Climate Action Plan (CAP)

As discussed in Section 3.9.1, Regulatory Framework, the County's CAP is a qualified GHG reduction plan according to CEQA Guidelines Section 15183.5 and thus can be used in a cumulative impacts analysis to determine significance. As shown in response to Threshold "a," the Project would not exceed the 3,000 MT CO_2e threshold established by the CAP. In addition, the Project would be consistent with the energy efficiency requirements of the most recent Title 24 standards, and the water conservation measures required by the current CALGreen standards. Per the County's CAP guidance, given that the Project is below the 3,000 MT CO_2e threshold, and applies the additional efficiency measures required of small projects, the Project would not conflict with the goals of the CAP.

Potential to Conflict with the SCAG's 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

On September 3, 2020, the Regional Council of the Southern California Association of Governments (SCAG) formally adopted the 2020–2045 RTP/SCS as a regional growth management strategy, which targets per capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California Region pursuant SB 375. In addition to demonstrating the region's ability to attain the GHG emission-reduction targets set forth by CARB, the 2020–2045 RTP/SCS outlines a series of actions and strategies for integrating the transportation network with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands (SCAG 2020). Thus, successful implementation of the 2020–2045 RTP/SCS would result in more complete communities with various transportation and housing choices while reducing automobile use.

The primary objective of the RTP/SCS is to provide guidance for future regional growth (i.e., the location of new residential and nonresidential land uses) and transportation patterns throughout the region, as stipulated under SB 375. Given that the Project involves construction and operation of a renewable energy solar facility, the goals and strategies of the RTP/SCS are not directly applicable. However, as described above, implementation of the Project would provide more than 15 million MWh of renewable energy over the lifetime (39 years) of the Project to the region, displacing GHG emissions from fossil fuel-fired electrical generation. The transition to renewable energy, as provided by the Project, would improve air quality and decrease GHG emissions within the region, in alignment with SCAG's overall goals to reduce GHG emissions, improve air quality, and adapt to a changing climate. As such, the Project would not conflict with the goals and policies of the RTP/SCS.

Potential to Conflict with CARB's Scoping Plan

The California State Legislature passed the Global Warming Solutions Act of 2006 (AB 32) to provide initial direction to limit California's GHG emissions to 1990 levels by 2020 and initiate the state's long-range climate objectives. Since the passage of AB 32, the State of California has adopted GHG emissions reduction targets for future years beyond the initial 2020 horizon year. For the Project, the relevant GHG emissions reduction targets include those established by SB 32 and AB 1279, which require GHG emissions be reduced to 40% below 1990 levels by 2030, and 85% below 1990 levels by 2045, respectively. In addition, AB 1279 requires the state achieve net zero GHG emissions by no later than 2045 and achieve and maintain net negative GHG emissions thereafter.

As defined by AB 32, CARB is required to develop the Scoping Plan, which provides the framework for actions to achieve the state's GHG emission targets. The Scoping Plan is required to be updated every 5 years and requires CARB and other state agencies to adopt regulations and initiatives that will reduce GHG emissions statewide. The first Scoping Plan (Climate Change Proposed Scoping Plan: A Framework for Change) was adopted in 2008, and was updated in 2014, 2017, and most recently in 2022. The Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations.[5] However, given that the Scoping Plan establishes the official framework for the measures and regulations that will be implemented to reduce California's GHG emissions in alignment with the adopted targets, a project would be found to not conflict with the statutes if it would meet the general policies in reducing GHG emissions in order to facilitate the achievement of the state's goals and would not impede attainment of those goals.

CARB's 2017 Scoping Plan update was the first to address the state's strategy for achieving the 2030 GHG reduction target set forth in SB 32 (CARB 2017a), and the most recent CARB 2022 Scoping Plan update outlines the state's plan to reduce emissions and achieve carbon neutrality by 2045 in alignment with AB 1279 and assesses progress made toward the 2030 SB 32 target (CARB 2022a). As such, given that SB 32 and AB 1279 are the relevant GHG emission targets, the 2017 and 2022 Scoping Plan updates that outline the strategy to achieve those targets are the most applicable to the Project.

To achieve the 2030 goal of 40% below 1990 GHG emission levels, the 2017 Climate Change Scoping Plan Update (Second Update) included measures to promote renewable energy and energy efficiency (including the mandates of SB 350), measures to increase stringency of the LCFS, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and measures to increase stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, the Second Update recommended continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20%. Many of these measures and programs would result in the reduction of Project-related GHG emissions with no action required at the Project level. These programs would benefit GHG emission reductions through increased energy efficiency and renewable energy production (SB 350), reduction in carbon intensity of transportation fuels (LCFS), and the accelerated efficiency and electrification of the statewide vehicle fleet (Mobile Source Strategy). Implementation of these statewide programs would result in a reduction of operational GHG emissions over the Project lifetime.

[5] The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009).

CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality (Third Update) in December 2022 to outline the state's plan to reduce anthropogenic emissions to 85% below 1990 levels by 2045 and achieve carbon neutrality by 2045 or earlier. The Third Update also assesses the progress the state is making toward reducing GHG emissions by at least 40% below 1990 levels by 2030, as is required by SB 32 and laid out in the Second Update. The carbon reduction programs included in the Third Update build on and accelerate those currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; and displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines) (CARB 2022a). As with the Second Update, implementation of the measures and programs included in the Third Update are the responsibility of policymakers and would result in the reduction of Project-related GHG emissions with no action required at the Project level. Given that the Project intends to produce up to 117 MW of renewable electricity through new photovoltaic solar generation, implementation would support the Third Update's goals of displacing fossil-fuel fired electrical generation through use of renewable alternatives. As discussed above, over its expected lifetime, the proposed solar facility is expected to generate approximately 15,031,120 MWh of renewable energy, which would displace approximately 593,428 MT CO_2e due to the transition from fossil fuel-generated electricity.

The 2045 carbon neutrality goal required CARB to expand proposed actions in the Third Update to include those that capture and store carbon in addition to those that reduce only anthropogenic sources of GHG emissions. The Project would support the state's carbon neutrality goals, as implementation would increase renewable, carbon-free electricity sources within the state, decreasing reliance on fossil fuels. While transitioning to renewable alternatives will support the state's overall climate goals, the Third Update indicates that achieving carbon neutrality will require research, development, and deployment of additional methods to capture atmospheric GHG emissions (e.g., mechanical direct air capture). The specific path to neutrality will require development of technologies and programs that are not currently known or available, but the Project is not anticipated to conflict with research, development, or deployment of carbon capture and sequestration technologies generally.

Overall, the Project would comply will all regulations adopted in furtherance of the Scoping Plan to the extent applicable and required by law. As mentioned above, several Scoping Plan measures would result in reductions of Project-related GHG emissions with no action required at the Project level, including those related to energy efficiency, reduced fossil fuel use, and renewable energy production. As demonstrated above, the Project would not conflict with CARB's 2017 or 2022 Scoping Plan updates, nor with the state's ability to achieve the 2030 and 2045 GHG reduction and carbon neutrality goals. Further, the Project's consistency with the applicable measures and programs would assist in meeting the County's contribution to GHG emission reduction targets in California.

Cumulative Impacts

Geographic Scope. The geographic scope for GHGs is global, encompassing the entire Earth and its atmosphere. GHGs, such as CO_2, CH_4, N_2O, and fluorinated gasses, trap heat in the atmosphere and contribute to climate change on a planetary scale. Human activities, including the burning of fossil fuels and land-use changes, have led to unprecedented increases in GHG concentrations, disrupting the Earth's radiative balance and causing the planet's surface temperature to rise. The impact of GHGs on climate extends far beyond specific regions, affecting weather patterns, sea levels, and ecosystems worldwide. Efforts to mitigate GHG emissions and address climate change require global cooperation and concerted actions from all nations.

Cumulative Impacts. This impact assessment describes the Project's contribution toward global climate change through GHG emissions that occur because of the Project. Because the direct environmental impact of GHG emissions is to influence global climate change, GHG emissions are inherently a cumulative concern with a cumulatively global scope. No single project could, by itself, result in a substantial change in climate. As the project-specific analysis for the Project analyzes cumulative global impacts, there is no separate cumulative impacts analysis for global climate change. Virtually all the cumulative projects would also contribute to global GHG concentrations due to the generation of short-term and/or long-term GHG emissions associated with their construction, operation, and decommissioning, if applicable. Utility-scale renewable energy development contributes relatively minor GHG emissions, generally from emissions from heavy equipment used during the construction phase and from vehicular emissions. However, utility-scale renewable energy production also reduces CO_2e emissions from utilities by offsetting emissions from new or existing fossil fuel energy sources. 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 Project or with the other cumulative projects. The thresholds adopted to analyze Project-level impacts are based on a need to determine the severity of Project-specific contributions to global atmospheric carbon concentrations.

As discussed in Section 3.9.1, the County's CAP is a qualified GHG reduction plan according to CEQA Guidelines Section 15183.5 and thus can be used in a cumulative impacts analysis to determine significance. As shown in response to Threshold "a," the Project would not exceed the 3,000 MT CO_2e threshold established by the CAP. In addition, the Project would be consistent with the energy efficiency requirements of the most recent Title 24 standards, and the water conservation measures required by the current CALGreen standards. Per the County's CAP guidance, given that the Project is below the 3,000 MT CO_2e threshold, and applies the additional efficiency measures required of small projects, the Project would not conflict with the goals of the CAP.

Additionally, the renewable energy generated during the 39 years of Project operation would offset an estimated 15,216 $MTCO_2e$ of grid-supplied electricity annually. These displaced emissions would result in a total net GHG reduction of approximately 593,428 $MTCO_2e$ over the Project life (39 years). Given that the Project would result in a net decrease of CO_2e emissions, impacts related to the generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment would be considered less than cumulatively considerable; and therefore, **less than significant.** Therefore, the Project would not result in a cumulatively considerable impacts regarding the potential to generate GHG emissions that may have a significant impact on the environment or the potential to conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

3.9.4 Mitigation Measures

No mitigation would be required.

3.9.5 References

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3.10 Hazards and Hazardous Materials

This section includes an analysis of the environmental impacts from hazards and hazardous materials that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning of the proposed project (Project). The analysis in this section describes the applicable regulations, provides information on existing hazards and hazardous materials in and surrounding the Project site, identifies the criteria used for determining the significance of environmental impacts, describes the Project's potential impacts related to hazards and hazardous materials, and lists Mitigation Measures (MMs) that would be incorporated into the Project to avoid and/or substantially lessen to the extent feasible potentially significant impacts. Information in this section is based on a Phase I Environmental Site Assessment (ESA) prepared by Practical Environmental Solutions (PES) on November 18, 2022; a Limited Phase II ESA prepared by PES on July 28, 2023; and publicly available databases including the Department of Toxic Substances Control (DTSC). Copies of the Phase I and II ESAs are located in Appendix J and Appendix K of this EIR.

3.10.1 Regulatory Framework

Hazardous materials are defined by federal and state regulations that aim to protect public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause those materials to be considered hazardous. The term "hazardous materials" refers to both hazardous substances and hazardous wastes. Under federal and state laws, any material, including wastes, may be considered hazardous if it is specifically listed by statute as such or if it is toxic (causes adverse human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases). Hazardous materials are defined in the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 101(14), and in the California Code of Regulations (CCR), Title 22, Chapter 11, Article 2, Section 66261, which provides the following definition:

> A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

Federal Laws, Regulations, and Policies

Resource Conservation and Recovery Act (RCRA) (42 USC 6901 et seq.). The RCRA authorizes the U.S. Environmental Protection Agency (EPA) to control hazardous waste "from cradle to grave" (i.e., generation, transportation, treatment, storage, and disposal). RCRA Federal Hazardous and Solid Waste Amendments from 1984 include waste minimization and phasing out of land disposal of hazardous waste, as well as corrective action for releases. DTSC is the lead state agency for corrective action associated with RCRA facility investigations and remediation.

Toxic Substances Control Act (15 USC 2601-2692). The Toxic Substances Control Act authorizes EPA to require reporting, recordkeeping, testing requirements, and restrictions related to chemical substances and/or mixtures. This act also addresses production, importation, use, and disposal of specific chemicals, such as polychlorinated biphenyls, asbestos-containing materials, lead-based paint, and petroleum.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC 9601 et seq.). CERCLA, including the Superfund program, was enacted by Congress on December 11, 1980, and is administered by EPA. This law provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan, which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The National Contingency Plan also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Clean Water Act/Spill Prevention, Control, and Countermeasure (SPCC) Rule (33 USC 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972. As part of the Clean Water Act, EPA oversees and enforces the Oil Pollution Prevention regulation contained in Title 40 of the Code of Federal Regulations (CFR), Part 112, which is often referred to as the "SPCC Rule" because the regulations describe the requirements for facilities to prepare, amend, and implement SPCC Plans. A facility is subject to SPCC regulations if a single oil (or gasoline or diesel fuel) storage tank has a capacity greater than 660 gallons; the total aboveground oil storage capacity exceeds 1,320 gallons; or the underground oil storage capacity exceeds 42,000 gallons; and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the "navigable waters" of the United States.

Occupational Safety and Health Administration. The Occupational Safety and Health Administration is the agency responsible for ensuring worker safety in the handling and use of chemicals in the workplace. The federal regulations pertaining to worker safety are contained in Title 29 of the CFR, as authorized in the Occupational Safety and Health Act of 1970. These regulations provide standards for safe workplaces and work practices, including standards relating to hazardous materials handling.

National Fire Protection Association (NFPA) 855. NFPA 855 (Standard for the Installation of Stationary Energy Storage Systems) provides minimum requirements for mitigation of hazards associated with energy storage systems (ESSs). The design, construction, and installation of ESSs and related equipment shall comply with NFPA 855 Chapter 4, as supplemented or modified by the technology-specific provisions in Chapters 9 through 13. Chapter 4 includes, but is not limited to, provisions regarding gas release, testing requirements, hazard mitigation analysis, availability of operation and maintenance manuals, and staff training. ESS plans and specifications should be submitted to the jurisdictional agency. Underwriters Laboratories (UL) 9540 falls under NFPA 855 and addresses key issues associated with energy storage including battery system safety, functional safety, environmental performance, containment, and fire detection and suppression. The UL 9540A test is a method to evaluate thermal runaway fire propagation in battery energy storage systems (BESSs).

Federal Aviation Administration (FAA). The Federal Aviation Regulation (49 CFR Part 77) establishes standards and notification requirements for objects that may impact navigable airspace. Airports and navigable airspace that are not administered by the Department of Defense are under the jurisdiction of FAA. This regulation includes (1) FAA notification requirements for proposed construction, or the alteration of existing structures, that meet specific standards; (2) the standards used to determine obstructions to air navigation, and navigational and communication facilities; (3) the process for aeronautical studies of obstructions to air navigation or navigational facilities to determine the effect on the safe and efficient use of navigable airspace, air navigation facilities, or equipment; and (4) the process to petition FAA for discretionary review of determinations, revisions, and extensions of determinations.

State Laws, Regulations, and Policies

California Environmental Protection Agency. The California Environmental Protection Agency (CalEPA) was created in 1991, which unified California's environmental authority in a single cabinet-level agency and brought the California Air Resources Board, State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCBs), Integrated Waste Management Board, DTSC, Office of Environmental Health Hazard Assessment, and Department of Pesticide Regulation under one agency. These agencies were placed within CalEPA for the protection of human health and the environment and to ensure the coordinated deployment of state resources. Their mission is to restore, protect, and enhance the environment, to ensure public health, environmental quality, and economic vitality.

California Hazardous Waste Control Law (HWCL). The HWCL is administered by CalEPA to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until EPA approves the California program, both the state and federal laws apply in California. The HWCL lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

California Department of Toxic Substances Control. DTSC is a department of CalEPA and is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. DTSC recently finalized revisions to its hazardous waste regulations (revisions in 22 CCR Division 4.5, sections and articles in Chapters 10, 11, and 23) that will allow photovoltaic (PV) solar panels to be managed as "universal waste" beginning on January 1, 2021. By being classified as universal waste, PV solar panels will now be subject to a streamlined set of standards that are intended to ease regulatory burden and promote recycling.

California Fire Code (CFC). Chapter 12 of the CFC provides provisions related to the installation, operation, and maintenance of energy systems used for generating or storing energy to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. Section 1206 of the 2019 CFC provides requirements for electrical ESSs. BESS greater than 600 kilowatt-hours are required by the CFC to be UL listed and have full-scale testing using the testing standard UL 9540A. UL 9540A tests a variety of fire and life safety features on the battery, including thermal runaway, gas venting, and fire propagation.

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act is a state law that provides a comprehensive water quality management system for the protection of California waters. The act designates SWRCB as the ultimate authority over state water rights and water quality policy, and established nine RWQCBs to oversee water quality on a day-to-day basis at the local and regional level. The Colorado River Basin RWQCB is responsible for protecting the beneficial uses of surface water and groundwater resources in the Project's area. The Colorado River Basin RWQCB adopted its Basin Plan (Water Quality Control Plan for the Colorado River Basin Region) in 1993 and amended it in 2019 (CRBRWQCB 2019). This Basin Plan set forth implementation policies, goals, and water management practices, in accordance with the Porter-Cologne Water Quality Control Act. The Basin Plan establishes both numerical and narrative standards and objectives for water quality aimed at protecting aquatic resources. Project

discharges to surface waters are subject to the regulatory standards set forth in applicable regional basin plans, which prevent the discharge of hazardous materials into waters of the state.

Unified Program. In 1993, the state (CalEPA) was mandated by Senate Bill 1082 (California Health and Safety Code Chapter 6.11) to establish a "unified hazardous waste and hazardous materials management" regulatory program (Unified Program). The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the following six environmental and emergency response programs: Hazardous Materials Release Response Plans and Inventories (Hazardous Material Business Plan [HMBP]), California Accidental Release Prevention Program, Underground Storage Tank Program, Aboveground Petroleum Storage Act, Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered permitting) Programs, and California Uniform Fire Code: Hazardous Material Management Plans and Hazardous Material Inventory Statements. The Unified Program is implemented at the local level by local government agencies certified by the Secretary of CalEPA. These agencies, known as Certified Unified Program Agencies (CUPAs), implement all the Unified Program elements and serve as a local contact for area businesses. The CUPA for the Project's area is the County of Riverside Department of Environmental Health (DEH) Hazardous Materials Branch. The CUPA also oversees the two Participating Agencies (Corona and Riverside Fire Departments) that implement hazardous materials programs within Riverside County (County).

California Public Resources Code, Sections 4292 and 4293. California Public Resources Code, Sections 4292 and 4293, specify requirements related to fire protection and prevention in transmission line corridors. California Public Resources Code, Section 4292, states that any person that owns, controls, operates, or maintains any electrical transmission or distribution line has primary responsibility for fire protection of such areas, and shall maintain around and adjacent to any pole or tower that supports a switch, fuse, transformer, lightning arrester, line junction, or dead end or corner pole, a firebreak that consists of a clearing of not less than 10 feet in each direction from the outer circumference of such a pole or tower. California Public Resources Code, Section 4293, states that any person that owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or in forest-covered land, or grass covered land that has primary responsibility for the fire protection of such area, shall maintain a clearance of the respective distances.

California Department of Industrial Relations, Division of Occupational Safety and Health Administration. The California Occupational Safety and Health Administration is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. California Occupational Safety and Health Administration 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.

California Highway Patrol

A valid Hazardous Materials Transportation License, issued by the California Highway Patrol (CHP), is required by the laws and regulations of State of California Vehicle Code Section 3200.5 for transportation of either:

- Hazardous materials shipments for which the display of placards is required by State regulations; or
- Hazardous materials shipments of more than 500 pounds, which would require placards if shipping greater amounts in the same manner.

Assembly Bill (AB) 203. AB 203 adds Section 6709 to the Labor Code regarding occupational safety and health related to valley fever. This section applies to a construction employer with employees working at worksites in counties where valley fever is highly endemic, including, but not limited to, the Counties of Fresno, Kern, Kings, Madera, Merced, Monterey, San Joaquin, San Luis Obispo, Santa Barbara, Tulare, and Ventura, where work activities disturb the soil. These activities include, but are not limited to, digging, grading, or other earth-moving operations, or vehicle operations on dirt roads, or high winds. "Highly endemic" means that the annual incidence rate of valley fever is greater than 20 cases per 100,000 persons per year. An employer subject to Section 6709 was required to provide effective awareness training on valley fever to all employees by May 1, 2020, and annually by that date thereafter, and before an employee begins work that is reasonably anticipated to cause exposure to substantial dust disturbance. "Substantial dust disturbance" means visible airborne dust for a total duration of 1 hour or more on any day. The training may be included in the employer's injury and illness prevention program training or as a standalone training program. The County's valley fever incidence rates are currently not high enough to be considered highly endemic and require valley fever awareness training under AB 203.

Local Laws, Regulations, and Policies

Riverside County General Plan. The intent of the Safety Element of the Riverside County General Plan is to reduce death, injuries, property damage, and economic and social impact from hazards. The following policies included in the Safety Element generally relate to the Project with respect to hazards and hazardous materials (County of Riverside 2021a).

- **Policy S 5.1.** Enforce land use policies and existing criteria related to hazardous materials and waste through ongoing implementation of the programs identified in the County's Hazardous Waste Management Plan (CHWMP).
- **Policy S 5.2.** Review all proposed development projects that manufacture, use, or transport hazardous materials for compliance with the CHWMP. Such projects shall provide a buffer zone, to be determined by the County, between the installation and property boundaries sufficient to protect public safety.
- **Policy S 5.3.** Require that applications for discretionary development projects that will generate hazardous wastes or use hazardous materials include detailed information on hazardous waste reduction, recycling, and storage.
- **Policy S 5.4.** Ensure that industrial facilities are constructed and operated in accordance with current safety and environmental protection standards.
- **Policy S 5.5.** Regulate the storage of hazardous materials and wastes and require secondary containment and periodic examination for all such materials as necessary.
- **Policy S 5.6.** Require that any business that handles a hazardous material prepare a plan for emergency response to a release or threatened release of a hazardous material, including providing updated information to emergency responders on the type and quantity of hazardous materials kept on-site.
- **Policy S 5.7.** Identify sites that are inappropriate for hazardous material storage, maintenance, use, and disposal facilities due to the potential impacts on adjacent land uses and the surrounding natural environment. Prohibit the siting of new or expanded hazardous material facilities on such sites to the extent feasible.
- **Policy S 5.8.** Ensure that the use and disposal of hazardous materials in the County complies with local, state, and federal safety standards.

- **Policy S 5.9.** 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.

County of Riverside Department of Environmental Health. DEH is responsible for protecting the health and safety of the public and the environment of the County by ensuring that hazardous materials are properly handled and stored. DEH accomplishes this through inspection, emergency response, site remediation, and hazardous waste management services. DEH also acts as the CUPA for the County and is responsible for reviewing HMBPs. A CUPA is a local agency that has been certified by CalEPA to implement state environmental programs related to hazardous materials and waste. The specific responsibilities of DEH include the following:

- Inspecting hazardous material handlers and hazardous waste generators to ensure full compliance with laws and regulations
- Implementing CUPA programs for the development of accident prevention and emergency plans; proper installation, monitoring, and closure of underground storage tanks; and the handling, storage, and transportation and disposal of hazardous wastes
- Providing 24-hour response to emergency incidents involving hazardous materials or wastes to protect the public and the environment from accidental releases and illegal activities
- Overseeing the investigation and remediation of environmental contamination due to releases from underground storage tanks, hazardous waste containers, chemical processes, or the transportation of hazardous materials
- Conducting investigations and taking enforcement action as necessary against anyone who disposes of hazardous waste illegally or otherwise manages hazardous materials or wastes in violation of federal, state, or local laws and regulations

Riverside County Airport Land Use Compatibility Plan (RCALUCP). The RCALUCP sets forth the criteria and policies that the Riverside County Airport Land Use Commission uses in assessing the compatibility between the principal airports in the County and proposed land use development in the areas surrounding those airports (County of Riverside 2004). The RCALUCP primarily addresses reviews 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 Airport Land Use Commission as provided in the policies identified in the RCALUCP. The Airport Land Use Commission does not have authority over existing incompatible land uses or the operation of any airport.

The Airport Land Use Commission 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 four-fifths supermajority vote. The RCALUCP identifies airport influence areas 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. The Desert Center Airport area of influence, as defined in the October 2004 RCALUCP, is limited to a 5,000-foot radius around the airstrip, east of State Route (SR) 177.

Desert Center Area Plan. The Desert Center Area Plan (County of Riverside 2021b) includes local hazard policies specific to the area, mainly related to seismic occurrences and limited wildland fire. Related policies include the following:

- **Policy DCAP 10.1.** All proposed development located within High or Very High Fire Hazard Severity Zones shall protect life and property from wildfire hazards through adherence to policies identified in the Fire Hazards (Building Code and Performance Standards), Wind-Related Hazards and General and Long-Range Fire Safety Planning sections of the General Plan Safety Element.
- **Policy DCAP 11.1**. Protect life and property from seismic-related incidents through adherence to the policies in the Seismic Hazards and Geologic Hazards section of the General Plan Safety Element.
- **Policy DCAP 12.1.** Protect life and property, and maintain the character of Desert Center, through adherence to the Hillside Development and Slope section of the General Plan Land Use Element, the Rural Mountainous and Open Space land use designations within the General Plan Land Use Element, and the Slope and Soil Instability Hazards section of the General Plan Safety Element.

3.10.2 Environmental Setting

This section discusses the existing conditions related to hazards and hazardous materials in the Project site and surrounding area and describes the environmental setting for hazardous materials sites, airports, electromagnetic fields (EMFs), and wildfire hazards.

Current and Historical Property Use

Existing and past land use activities are commonly used as indicators of sites or areas where hazardous material storage and use may have occurred or where potential environmental contamination may exist. For example, many historic and current industrial sites have soil or groundwater contaminated by hazardous substances. Other hazardous materials sources include leaking underground storage tanks in commercial and rural areas, contaminated surface runoff from polluted sites, and contaminated groundwater plumes. Current and former agricultural properties commonly have herbicide, pesticide, and/or fumigant soil contamination.

The Project is primarily located on private lands with small linear features (Linear Facility Routes [LFRs]) on Bureau of Land Management (BLM)-administered land approximately 3 miles north of Desert Center, approximately 40 miles west of the City of Blythe, and 3.5 miles north of Interstate 10. The Project is bounded on the north, east, and west sides by BLM lands and to the south by Belsby Avenue. Melon Street runs along the west side of the Project boundary and Jojoba Street on the east. The east side of the Project site is adjacent to SR-177/Rice Road.

The Project is located within the Desert Center Area Plan Boundary of the Riverside County General Plan. The private lands associated with the Project are designated as Open Space, Rural, and Agriculture per the Riverside County General Plan. The Project site is relatively flat and based on a review of historical aerial photographs (NETR 2023), was historically used for agricultural purposes. Private lands within the Project site formerly supported mixed-use agricultural practices, including cultivating jojoba and aquaculture farming. Based on available U.S. Department of Agriculture Natural Resources Conservation Service crop data, agricultural operations have not occurred on site for at least 14 years (2008 is the last year crop data for the Project site are available) (U.S. Department of Agriculture 2022). In its existing condition, the Project site consists of scattered fallow jojoba fields and a semi-developed/aquaculture area within the western portion of the site. Scattered dead jojoba shrubs and two mid-twentieth century water pumps associated with the fallow agriculture fields remain within the Project site. As with all

agricultural properties, there is a likelihood that pesticides and herbicides were used. The chemicals associated with pesticide and herbicide use, specifically those used before 1980, are bioaccumulative, persistent in site soils, and can be carcinogenic. As such, the longer a property is treated with pesticides and herbicides prior to redevelopment, the more likely there will be impacts to shallow soils. Contaminants of concern commonly associated with historical pesticide and herbicide use include chlorinated compounds and arsenic. While the Phase I ESA did not identify any potential for releases of hazardous materials or petroleum products on the Project site (Appendix J), Riverside County Department of Environmental Health, Environmental Cleanup Program (DEH) requested sampling and analysis of shallow soils to evaluate for residual contamination from past agricultural use. The Limited Phase II ESA included collection and analysis of 40 soil samples; samples were analyzed for pesticides, metals, and mercury (Appendix K). Pesticides were not detected in any soil samples above method detection limits (MDLs), which were below applicable environmental screening levels (ESLs) for future commercial use (SFRWQCB 2019). Metals, including arsenic, barium, chromium, and lead, were detected in soils above the MDL. In general, concentrations were below applicable ESLs for commercial use, except for arsenic, which was detected at concentrations up to 1.69 milligrams per kilogram (mg/kg). While these are above commercial ESLs, they are below typical background concentrations for arsenic in southern California, which is 12 mg/kg (DTSC 2020). Therefore, all metals were within typical background range, and are not considered elevated.

In summary, while historical uses of the Project site included agricultural use, results of the Phase II sampling concluded there is no evidence of residual soil contamination associated with former pesticide and herbicide use.

Surrounding Land Use. Land uses near the Project site include aquaculture, transportation (Kaiser Road, Rice Road/SR-177, and Desert Center Airport), agricultural, renewable energy (both existing and proposed), energy transmission, and unprogrammed recreational and wilderness areas. The existing Desert Sunlight and Desert Harvest solar projects are located north of the Project site; the existing Athos Solar Project is located south, northeast, and east of the Project site; and the recently approved Oberon Solar Project (a series of scattered yet interconnected, post-mounted PV solar array sites generally located to the south and east of SR-177) is located to the south of the Project site. The community of Lake Tamarisk is located approximately 1.28 miles southwest from the Project site at its nearest point. Additional land uses in the vicinity include the Desert Center Landfill to the west and the Chuckwalla Valley Raceway to the east.

Formerly Used Defense Sites. Desert Center Division Camp was located primarily north and west of Desert Center, California, and consisted of 34,000 acres used for maneuvers, camp sites, an evacuation hospital, and an ammunition depot for the Desert Training Center/California-Arizona Maneuver Area (DTC/CAMA), from 1942 to 1944. The DTC/CAMA facility was created in 1942 as part of World War II military efforts to train troops in desert conditions. No permanent division camp was constructed at this site; only temporary structures were used to house the evacuation hospital, an observer detachment, an ordnance maintenance company, a quartermaster truck unit, and Ammunition Depot No. 1. While maneuver areas may have extended eastward to overlap the western portion of the Project site (USACE 1994), cultural surveys have not revealed evidence of the former DTC beyond scatterings of debris (e.g., cans) and earthen berms (Appendix I, Phase I Cultural Resources Assessment).

Valley Fever

Valley fever (coccidioidomycosis) is an illness caused by the inhalation of soil-dwelling *Coccidioides* fungus spores, which live in the top 2 to 12 inches of soil in many parts of California, most prevalently in the Central Valley and in desert/dry areas (CDPH 2013). When soil containing this fungus is disturbed by

activities such as digging or vehicular driving, or by the wind, the fungal spores become airborne and can be inhaled. Valley fever is not transmitted directly from person to person.

Valley fever usually infects the lungs and can cause flu-like symptoms or pneumonia. Some people with valley fever may develop severe disease, which may require hospitalization. In rare cases, the infection can spread beyond the lungs to other parts of the body (this is called "disseminated valley fever") or be fatal (CDPH 2022). Many people who are exposed to the *Coccidioides* fungus spores never have symptoms, while others may have cold- or flu-like symptoms that usually go away on their own after several weeks to months. Numerous mild cases of valley fever likely go undiagnosed. However, valley fever can be serious and even fatal. In California, more than 1,000 people are hospitalized and 80 die from valley fever every year (CDPH 2023).

Valley fever is considered endemic in California, with cases in California increasing from less than 1,000 cases in 2000 to more than 9,000 cases in 2019 (CDPH 2019, 2023). According to the California Department of Public Health, the number of reported incidences of valley fever in California in 2019 was the highest annual incidence reported in California since coccidioidomycosis became individually reportable in 1995. There were 9,004 cases reported in 2019, with an incidence rate of 22.5 cases per 100,000 population. This is a 159% increase of incidence of coccidioidomycosis from 2013 (3,327, or 8.7 per 100,000) (CDPH 2019). Valley fever is considered highly endemic in counties where incidence rates are greater than 20 per 100,000 population. The number of incidences has also significantly increased in the County, from 34 cases and an incidence rate of 1.5 per 100,000 in 2013 to 255 cases and an incidence rate of 10.4 per 100,000 in 2019 (CDPH 2019).

In San Luis Obispo and Monterey Counties,, valley fever cases have been reported at solar facility projects (Wilken et al. 2015). The California Department of Public Health has conducted investigations of valley fever incidences at solar farms and provided recommendations that included improved worksite dust-control measures; using earth-moving equipment and trucks with high-efficiency particulate air filtered enclosed cabs to protect the operator; implementing and enforcing criteria for suspending work on the basis of wind and dust conditions; providing all outdoor workers access to National Institute for Occupational Safety and Health–approved respiratory protection for exposure to excessive wind-blown dust when conducting or in close proximity to soil-disturbing work; providing clean coveralls daily to employees; encouraging workers to remove coveralls and work shoes before entering vehicles to leave the worksite; developing effective valley fever training for all employees that includes ways to reduce exposure, how to recognize symptoms, and where to seek care; and improving compliance by employers and their designated health care providers with reporting cases to local health jurisdictions, workers' compensation carriers, and the California Occupational Safety and Health Administration.

Environmental Contamination

Government Code Section 65962.5 requires CalEPA to compile a list of hazardous waste and substances sites (Cortese List). While the Cortese List is no longer maintained as a single list, the following databases provide information that meet the Cortese List requirements:

1. List of Hazardous Waste and Substances Sites from the DTSC EnviroStor database (Health and Safety Codes 25220, 25242, 25356, and 116395)
2. List of open and active LUST Sites by County and Fiscal Year from the SWRCB GeoTracker database (Health and Safety Code 25295)

3. List of solid waste disposal sites identified by SWRCB with waste constituents above hazardous waste levels outside the waste management unit (Water Code Section 13273[e] and 14 CCR Section 18051)
4. List of "active" Cease and Desist Orders and Cleanup and Abatement Orders from SWRCB (Water Code Sections 13301 and 13304)
5. List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC

In addition, other online databases provide environmental information on release and cleanup cases in the State of California. While not included on the Cortese List, they may provide additional information regarding potential environmental contamination on the Project site. Table 3.10-1 provides a summary of the databases searched.

Table 3.10-1. Online Database Listings

Database	Details
California Environmental Protection Agency (CalEPA) https://siteportal.calepa.ca.gov/nsite/	The CalEPA Regulated Site Portal is a website that combines data about environmentally regulated sites and facilities in California into a single, searchable database and interactive map. Data sources include the California Environmental Reporting System (CERS), EnviroStor, GeoTracker, California Integrated Water Quality System (CIWQS), and Toxics Release Inventory (TRI).
Department of Toxic Substances Control (DTSC) EnviroStor https://www.envirostor.dtsc.ca.gov/	DTSC's data management system for tracking cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known contamination or sites where there may be reasons for further investigation.
State Water Resources Control Board (SWRCB) GeoTracker http://geotracker.waterboards.ca.gov/	SWRCB's data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. GeoTracker contains records for sites that require cleanup, various unregulated projects, and permitted facilities. Sites include Leaking Underground Storage Tanks, Department of Defense, Cleanup Program, Irrigated Lands, Oil and Gas Production, Permitted Underground Storage Tanks, and Land Disposal Sites.
National Pipeline Mapping System (NPMS) https://www.npms.phmsa.dot.gov/	The NPMS Public Map Viewer is a web-based application designed to assist the general public with displaying and querying data related to gas transmission and hazardous liquid pipelines, liquefied natural gas plants, and breakout tanks under the Department of Transportation Pipeline and Hazardous Material Safety Administration jurisdiction.
California Geologic Energy Management (CalGEM) Well Finder https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx	The CalGEM Well Finder is a web-based application that plots reported locations and other information for oil and gas wells and other types of related facilities across California.
California Solid Waste Information System (SWIS) https://www2.calrecycle.ca.gov/SolidWaste/Site/Search	The SWIS database contains information on solid waste facilities, operations, and disposal sites throughout the State of California.

A search of these databases identified two hazardous material sites within 1 mile of the Project site boundaries: the Desert Center Landfill and Desert Center Division Camp (discussed under Formerly Used Defense Sites, above). These are not Cortese List sites listed pursuant to Government Code Section 65962.5.

Desert Center Landfill. This active landfill is approximately 2,000 feet west of the westernmost edge of the Project site (the LFRs). Routine compliance monitoring is conducted at the landfill to monitor groundwater and air quality. The 2022 annual compliance monitoring report discussed volatile organic compound impacts to groundwater; however, these impacts appear to be localized to the landfill area and are below maximum contaminant levels established for drinking water quality (RCDWR 2023). Landfill gas monitoring did not reveal evidence of methane or volatile organic compound emissions due to landfill gas (RCDWR 2023).

The search also identified sites that store or use hazardous materials as part of operations. These include Chuckwalla Raceway and Oberon Solar to the east-southeast (1.3 miles and 0.50 miles, respectively), Lake Tamarisk Water Treatment Plant to the south (1 mile), and Desert Center Landfill to the west (0.4 miles; discussed above). While these sites handle and store hazardous materials, there are no indications of releases or other environmental impacts associated with these sites. The hazardous material handling is permitted and reported, and regular site inspections are conducted by the local CUPA (Riverside County DEH).

Asbestos. Naturally occurring hazardous materials include asbestos, which is one of several minerals that form very thin mineral fibers and fiber bundles, such as chrysotile, tremolite, and actinolite. Asbestos is considered a hazardous material because when inhaled, the fibrous mineral strands embed in the lungs and have been known to cause development of lung cancer or mesothelioma. Naturally occurring asbestos minerals have not been identified near the Project site (USGS and CGS 2011).

Wildfires

The presence of dense, dry fuels and a warm, arid climate characterizes Southern California as having one of the most fire-prone landscapes in the world. Factors influencing wildfire behavior and magnitude include (but are not limited to) forest structure, fuel conditions, terrain, climate, weather, and ignition sources. Weather is one of the most significant biophysical factors of wildfire behavior. Wet winters and dry summers with mild seasonal changes characterize the Southern California climate. The summer months of Southern California are arid and warm, with very little precipitation. This climate pattern is occasionally interrupted by extreme periods of hot weather, drought, winter storms, or dry, easterly Santa Ana winds. Drought and Santa Ana winds are unique weather conditions that occur in Southern California that drive catastrophic wildfires. Santa Ana winds bring hot, dry desert air from the east into the region during late summer and fall, which increases wildland fire hazards during these seasons. Dry vegetation, low humidity, and high air temperature can combine to produce large-scale fire events. As Santa Ana winds blow westward toward denser development, fires driven by these winds have the potential to result in a greater risk of property damage. Much of the County is considered to be at risk from wildfires (County of Riverside 2021a). Section 3.22, Wildfire, of this EIR provides a detailed discussion of the environmental setting as related to wildfires for the Project area.

Schools

No current or proposed schools are located within 0.25 miles of the Project site (GreenInfo 2021; CDE 2023).

Airports and Airstrips

The Desert Center Airport is a private airport located approximately 1 mile east-southeast of the Project site. As discussed under Local Laws, Regulations, and Policies, in Section 3.10.1, Regulatory Framework, the Area of Influence around the Desert Center Airport is limited to a 5,000-foot radius around the airstrip, east of SR-177; conical surfaces (per Title 14 CFR Part 77.9) established for the airport are a 9,000-foot radius, extending just west of SR-177; noise compatibility contours are limited to the east side of SR-177.

The conical surfaces overlap the eastern portion of the Project site, approximately 100 feet west of SR-177. No master plan has been prepared for this airport (County of Riverside 2004).

In accordance with Title 14 CFR Part 77.9, certain construction is required to file with the FAA depending on a number of factors, including structure height and proximity to an airport or navigational equipment (Part 77 Notice Criteria). FAA offers an online tool to evaluate the need to report (FAA 2023). Using this tool, it was determined the Project is not required to report under Part 77 Notice Criteria.

Electromagnetic Fields

Electric voltage and electric current from transmission lines create electromagnetic fields (EMFs). Possible health effects associated with exposure to EMFs have been the subject of scientific investigation since the 1970s, and there continues to be public concern about the health effects of EMF exposure. However, EMF is not addressed here as an environmental impact under the California Environmental Quality Act (CEQA). EMF has repeatedly been recognized as not an environmental impact to be analyzed in the context of CEQA because (1) there is no agreement among scientists that EMF creates a potential health risk and (2) there are no defined or adopted CEQA standards for defining health risks from EMF.

3.10.3 Impact Analysis

Methodology

The hazardous materials analyzed include those potentially existing on the Project site and those that would be used as part of construction, operations and maintenance (O&M), and future decommissioning. Potential existing hazards were assessed based on review of state hazard databases and maps for the parcels comprising the area. This analysis was conducted by evaluating the proposed chemical types, quantities, transport, storage, use, and disposal.

Criteria for Determining Significance

Section IX of Appendix G to the State CEQA Guidelines addresses typical adverse effects due to hazards and hazardous materials, and includes the following threshold questions to evaluate a project's impacts due to hazards and hazardous materials. Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

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

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

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

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?[1]

Significance thresholds, set forth in Riverside County's Environmental Assessment Checklist, are derived from Section XVIII of Appendix G to the State CEQA Guidelines (listed above), and state that the Project would have a significant impact due to hazards and hazardous materials if the Project or any Project-related component would:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

c) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

d) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter (1/4) mile of an existing or proposed school?

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

f) Result in an inconsistency with an Airport Master Plan?

g) Require review by the Airport Land Use Commission?

h) For a project located within an airport land use plan or, where such a plan has not been adopted, within two (2) miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

i) For a project within the vicinity of a private airstrip, or heliport, would the project result in a safety hazard for people residing or working in the project area?

Environmental Impacts

This section includes an examination of the Project's impacts from hazards and hazardous materials per the County's Environmental Assessment Checklist and Appendix G of the State CEQA Guidelines identified above.

Threshold a: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

LESS THAN SIGNIFICANT. The use, storage, transport, and disposal of hazardous materials used in construction of the Project would be carried out in accordance with federal, state, and County regulations. No extremely hazardous substances (i.e., those governed pursuant to 40 CFR Part 335) are anticipated to be produced, used, stored, transported, or disposed of as a result of the Project's construction, operation, and decommissioning. Safety Data Sheets for all applicable materials present on site would be made readily available to on-site personnel.

The Project site is located within the former Desert Center Division Camp, which was used during World War II for training and encampment. Based on figures associated with the Findings and Determination of Eligibility Report, the eastern portion of the Desert Center Division Camp overlapped the western portion

[1] This threshold is analyzed in Section 3.22, Wildfire, of this EIR, per Riverside County's Environmental Checklist.

of the Project site, specifically Linear Facility Route A (USACE 1994). However, as noted in the Phase I Cultural Resources Assessment (Appendix I), little evidence of maneuvers has been identified in this area (such as cans and earthen berms). Additionally, given the site disturbance from former use of the Project site (as evidenced by historical aerials [NETR 2023]), such as roadways and agricultural use, the potential to encounter munitions and explosives of concern is low.

The Project would involve the use of small amounts of hazardous materials. Most of the hazardous materials use and hazardous waste generated by the Project would occur during the temporary construction period and would likely consist of liquid waste, including cleaning fluids, solvents, petroleum products, and herbicides. The fuels stored on site would be in a locked container within a fenced and secure temporary staging area. As there would be regulated hazardous materials on site, storage procedures would be dictated by the Hazardous Materials Business Plan (HBMP). Spill prevention measures and secondary containment would be implemented as part of the Project where warranted. Some solid hazardous waste, such as welding materials and dried paint, may also be generated during construction. A preliminary SPCC Plan (Appendix L) has been prepared for the Project site in accordance with 40 CFR 112, and an HMBP (Appendix M) has been prepared in accordance with California Safety Code Division 20, Chapter 6.95, Section 25505. Both plans outline requirements for storage, secondary containment, emergency and spill response, and training for the handling and storage of hazardous materials and petroleum products on the Project site (Appendices L and M). Safety Data Sheets for all applicable materials present on site would be made readily available to all personnel on site during construction, decommissioning, and operation of the Project.

The Project may use a variety of PV technologies including, but not limited to, cadmium telluride (CdTe) panels, crystalline silicon panels, bifacial panels, or copper indium gallium selenide panels. None of the solar panels being considered contains materials that are classified as hazardous waste because the chemicals within PV modules are highly stable and would not be available for release to and interaction with the environment. If a solar panel is broken during construction or operation, the pieces would be cleaned up completely and returned to the manufacturer for recycling. During future decommissioning, the solar panels would be removed, placed in secure transport containers for storage, and transported to another facility for reuse, material recycling, or disposal in accordance with regulations in effect at the time of closure. Throughout construction, waste materials would be sorted on site and transported to appropriate waste management facilities. A Construction Waste Management and Recycling Plan has been prepared for the Project site in accordance with the California Integrated Waste Management Act and CALGreen Standards (Appendix N). This plan outlines recycling and waste reduction procedures during construction to reduce waste.

During construction, operation, maintenance, and decommissioning of the Project, herbicides may be applied to control weed growth. Use of herbicides on the LFRs would occur consistent with the requirements of BLM Integrated Weed Management Manual; Federal Noxious Weed Act of 1974; Executive Order 13112, Invasive Species; Plant Protection Act of 2000; National Invasive Species Management Plan; and Section 403 of the California Food and Agriculture Code. Chemical control of weeds on the LFRs would only use BLM-approved active herbicidal ingredients.

For the solar facility, 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 under the direct supervision of a licensed Certified Pesticide Applicator and all personnel associated with herbicides would be appropriately trained and certified, as required. The Project would not contain a residential or commercial component that would potentially expose people to pesticides or herbicides.

As a result, application of herbicides during construction, operation, and decommissioning would have a less-than-significant impact.

Operation and maintenance activities associated with PV solar facilities are relatively minor when compared to other land uses such as conventional power plants, and would require very limited use of hazardous materials and generation of hazardous waste. The O&M building would house the Project's electronic controls and communications systems; provide storage for tools, maintenance supplies, and spare parts; and provide on-site office, kitchen, and bathroom facilities for operations staff.

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. Project operations could require the use of transformer oil at the substation and other hazardous materials at the BESS, which could contain battery acids, as well as lithium ion, sodium sulfur, and sodium or nickel hydride. All transformers would be equipped with spill containment areas and battery storage would be in accordance with OSHA requirements such as inclusion of ventilation, acid resistant materials, and spill response supplies. Any hazardous materials that would be used would be stored on site and in designated areas in accordance with the HBMP.

Operational activities involve monitoring plant performance, conducting scheduled maintenance for on-site electrical equipment, and responding to utility needs for plant adjustment. No heavy equipment would be necessary during normal Project operation. O&M vehicles typically include trucks (pickup, flatbed) for routine and unscheduled maintenance, and water trucks for solar panel washing.

Long-term maintenance and equipment replacement would be scheduled in accordance with manufacturer recommendations. 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 conducted as necessary. Compliance with applicable laws and regulations governing the use, storage, transport, and disposal of hazardous materials would ensure that all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for safety impacts.

During operation of the Project, small quantities of a variety of hazardous materials would be transported to the site and used and stored on site for miscellaneous, general maintenance activities. Chemicals would be stored in appropriate chemical storage facilities. Bulk chemicals are not expected to be used on site; chemicals would be stored in smaller returnable delivery containers. Waste lubricating oil would be recovered and recycled by a waste oil recycling contractor. 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. Transformers located on site would be equipped with coolant that is biodegradable and contains no polychlorinated biphenyls or other toxic compounds. Best management practices would be employed in the use and storage of all hazardous materials within the Project site, including the use of containment systems in appropriate locations. As noted above, herbicides may be used for weed control. The required SPCC Plan and HMBP and associated emergency response plan and inventory would be implemented during operation. Compliance with the required SPCC Plan and HMBP, and compliance with applicable state and federal regulations, would minimize the risk of damage or injury from use, disposal, and transport of hazardous materials to less-than-significant levels during the Project's operations.

Decommissioning impacts are anticipated to be similar to those determined for construction, as described above. The actual impacts would depend on the proposed future decommissioning action and final use of the site. During the decommissioning and disposal process, it is anticipated that all Project structures would be fully removed from the ground. Aboveground equipment that would be removed would include the PV solar panels, electrical wiring, equipment on the inverter pads, and the interconnection

transformer pad and associated equipment. Equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment off site.

Removal of the PV modules would include removal of the racks and piles on which the solar panels are attached, and their placement in secure transport crates and a trailer for storage, for ultimate transportation to an approved off-site disposal facility or to be recycled. Once the PV modules have been removed, the racks would be disassembled, and the piles supporting the racks would be removed. All other associated site infrastructure would be removed, including fences, concrete pads that may support the inverters, BESS units, transformers and related equipment, and underground conduit/electrical wiring. The fence and gates would be removed last, and all materials would be recycled to the extent feasible. Decommissioning of the site would remove all debris. As discussed above, most panel materials would be recycled, with minimal disposal to occur in landfills in compliance with all applicable laws.

Therefore, the impact of hazards to the public or the environment arising from the routine use, storage, transport, and disposal of hazardous materials during the Project's operation would be less than significant.

Threshold b: Would the project 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 WITH MITIGATION INCORPORATED. Construction, operation, and future decommissioning of the Project would involve the use of small amounts of hazardous materials, such as fuels and greases to fuel and service construction equipment. Improper handling and storage of these hazardous materials could result in accidental release if not managed appropriately. The SPCC Plan and HMBP prepared for the Project site include spill response and emergency response procedures and safety measures, further reducing the potential for accidental releases (Appendices L and M). Oil storage would be required to include secondary containment (per Oil Pollution Prevention rules in 40 CFR 112).

Construction activities required for the Project would involve trenching, excavation, grading, and other ground-disturbing activities. As discussed in Section 3.10.2, Environmental Setting, under Current and Historical Property Use, soil contamination associated with former agricultural use and munitions from former military operations are not a concern. Construction activities would temporarily require use of equipment, such as trucks, excavators, and other powered equipment, and would use potentially hazardous materials such as fuels (gasoline and diesel) and lubricants (oils and greases). In addition, construction may use hazardous materials such as glues, solvents, paints, thinners, or other chemicals. Such materials would be used in quantities typically associated with construction of PV solar facilities and would be transported, handled, stored, and disposed of in accordance with applicable laws and regulations and manufacturers' instructions.

During construction, the required Stormwater Pollution Prevention Plan (SWPPP) must include a list of potential pollutants (i.e., hazardous materials, fugitive dust, sediment, concrete waste), identify fueling areas, and include best management practices to prevent and limit these pollutants from reaching stormwater runoff. Spill response plans would be developed prior to Project construction, operation, and future decommissioning, and personnel would be made aware of the procedures for spill cleanup and the procedures to report a spill. Spill cleanup materials and equipment appropriate to the type and quantity of chemicals and petroleum products expected would be located on site and personnel would be made aware of their location.

Valley fever (coccidioidomycosis) is considered endemic in California and *Coccidioides* fungus are present in the arid desert regions of California, including Riverside County. Although the numbers of reported

valley fever cases in the County is a fraction of that reported statewide in 2019 (9,004 cases reported statewide versus 255 cases in Riverside County), the number of cases in the County has increased since 2013 (34 cases). Although not in Riverside County, valley fever has been documented to occur in some solar farm construction workers. Although valley fever is not considered highly endemic (greater than 20 cases per 100,000 population) in the County, there has been a marked increase in the number of cases reported of the last several years. Therefore, there is a potential that construction activities such as grading, excavation, and construction vehicle traffic could loosen and stir up soil containing *Coccidioides* fungus spores, exposing workers and the public to the risk of contracting valley fever. Ways to reduce the risk of valley fever include avoiding exposure to dusty air or dust storms, preventing dirt or dust from becoming airborne by wetting or use of palliatives, and, if working at a dusty site, using an N95 or equivalent mask. Construction activities for the Project would be subject to stringent dust control requirements (including South Coast Air Quality Management District Rules 402 and 403). MM HAZ-1 (Worker Environmental Awareness Program) would require preparation of a health and safety plan, which would include measures to further reduce dust and provide protections from valley fever. SCAQMD Rule 402 does not allow dust that creates a nuisance to nearby populations, while Rule 403 requires dust control measures, such as wetting construction areas, wetting or covering stockpiles, monitoring fugitive dusts, limiting vehicle track-out, and for larger construction projects, monitoring.

The Project would include a 117-megawatt, alternating current–coupled, centralized BESS configuration, which would include batteries housed within containers in a centralized location near the proposed on-site substation. Alternating current–coupled BESS design standards typically include lighting, monitoring equipment, cooling units, active exhaust venting, multiple fire detection units including gas/heat/smoke detectors, and fire suppression systems, which adequately address fire risk associated with the unit. The BESS would be designed, constructed, and operated in accordance with applicable industry best practices and regulatory requirements, including, but not limited to, NFPA 855 (Standard for the Installation of Stationary Energy Storage Systems) and Section 1206 of the CFC and, if applicable, certified to UL 9540. The configuration of the safety system would be determined based on site-specific environmental factors and associated fire response strategy, and would contain a safety system that would be triggered automatically when the system senses imminent fire danger. A fire safety system would be provided within each on-site battery enclosure. Components of the system could include a fire panel, aspirating hazard detection system, smoke/heat detector, strobes/sirens, and suppression tanks. The BESS would be NFPA 855 Code compliant and UL certified and would include built-in fail-safe and cooling systems designed to prevent thermal runaway and the spread of fire (Appendix O, Fire Protection and Safety Plan). The proposed batteries and containers will include multiple safety components, including integrated heat and fire detection and suppression systems, integrated air conditioning, and integrated battery management system. The heat and fire detection system would be linked to an automatic inert gas suppression system within each container. A water storage tank would be installed to provide the water supply needed for fire protection and operations, based on consultation with Riverside County Fire Department.

Implementation and compliance with these design and safety regulations would reduce the impact to less than significant. In summary, as a result of conformance with applicable regulations, implementation of applicable best management practices, and incorporation of MM HAZ-1, the Project would not directly or indirectly 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. Impacts would be less than significant.

Threshold c: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. There is no adopted emergency response plan or emergency evacuation plan that is applicable to the Project site; however, the County does have an adopted Emergency Operations Plan, which establishes a framework for implementing well-coordinated evacuations, and is in accordance with the State of California's Standardized Emergency Management System and the National Incident Command System. Additionally, the County's General Plan Safety Element identifies the Circulation Plan routes as the backbone routes for evacuation purposes (County of Riverside 2021a). The Project does not propose alter roadways identified as evacuation routes in the County's Circulation Plan. Additionally, the Project proposes to provide internal roads that would be constructed in accordance with Riverside County Fire Code (Chapter 8.32) to allow fire and maintenance vehicle access. All internal access roads within the Project site would be up to 24 feet wide and cleared, graded, and compacted. Up to a 24-foot-wide perimeter road separating the solar arrays from the perimeter fence would be constructed within the entire perimeter of the solar site.

Potential for temporary lane closures associated with construction and future decommissioning are discussed in Section 3.19, Transportation. As noted in Section 3.19, to minimize impacts during construction, MM TRAF-1 (Construction Traffic Management Plan) is recommended. Once constructed, maintenance activities would occur as needed at the solar facilities but are not expected to require any temporary travel lane closures that could restrict emergency vehicle movements. Refer to Section 3.19 for detailed discussions regarding access in and around the area.

Thus, the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

Threshold d: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter (1/4) mile of an existing or proposed school?

NO IMPACT. No existing or proposed schools are located within 0.25 miles of the Project site. The Project would not use acutely hazardous materials and the limited amounts of hazardous materials (such as fuels and greases) used during construction, operations, and decommissioning would be used, stored, transported, and disposed of following all applicable laws and regulations. Therefore, the Project would not result in hazardous materials impacts to existing or proposed schools. No impact would occur.

Threshold e: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

LESS THAN SIGNIFICANT. The Project site is not located on or within proximity of a Cortese List site, and as such, would not create a significant hazard to the public or environment due to hazardous materials related to such a site.

Although the Project site is not located within the World War II Desert Training Center/California-Arizona Maneuver Area (WWII DTC/CAMA) where maneuvers included weapons training, firing exercises, and laying out and removing landmine fields, two historic isolated artifact artillery lids were previously discovered within the Project area. Therefore, there is the potential that military waste debris and unexploded ordnances (UXOs) could be discovered within the Project site. However, the potential to encounter military waste debris and UXOs would be low as the majority of the area was converted to agricultural fields and it is likely that military waste debris and UXOs in the area would have been discovered during former agricultural operations. However, MM HAZ-2 would be implemented to further

reduce impact. MM HAZ-2 would train all site workers in the recognition, avoidance and reporting of military waste debris and UXOs, thus further reducing potential impacts associated with the potential to discover military waste debris and ordnances. Impacts would remain less than significant.

Threshold f: Would the project result in an inconsistency with an Airport Master Plan?

NO IMPACT. There is no Airport Master Plan established for the Desert Center Airport (County of Riverside 2004). However, the Desert Center Airport area of influence, as defined in the October 2004 RCALUCP, is limited to a 5,000-foot radius around the airstrip, east of SR-177. The area of influence was established based on the airport layout map (County of Riverside 2004). As there is no Airport Master Plan, the Project cannot result in an inconsistency. No impact could occur.

Threshold g: Would the project require review by the Airport Land Use Commission?

NO IMPACT. As noted above, Desert Center Airport area of influence, is limited to a 5,000-foot radius around the airstrip, east of SR-177. The Project site is not located within this influence area, and as such would not require review by the Airport Land Use Commission. No impact would occur.

Threshold h: For a project located within an airport land use plan or, where such a plan has not been adopted, within two (2) miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

NO IMPACT. The Project site is located less than 2 miles from the Desert Center Airport, which is not a public airport or public use airport. The closest public airport or public use airport to the Project site is the Jacqueline Cochran Regional Airport located approximately 45 miles to the west. The Project is not located within an airport land use plan. Therefore, no impact would occur.

Threshold i: For a project within the vicinity of a private airstrip, or heliport, would the project result in a safety hazard for people residing or working in the project area?

NO IMPACT. The Project site does not fall within an area of influence for the Desert Center Airport, including safety contours for airport impacts and influence. No impact would occur.

Cumulative Impacts

Geographic Scope. The geographic scope of impacts associated with hazardous materials generally encompasses the Project site and a 1-mile-radius area around the Project site. A 1-mile-radius area allows for a conservative cumulative analysis that ensures that all potential cumulative impacts will be assessed. Similar to other potential impacts, such as those related to geology and soils, risks related to hazards and hazardous materials are typically localized in nature since they tend to be related to on-site existing hazardous conditions and/or hazards caused by the Project's construction or operation. A geographic scope of a 1-mile-radius area is four times the distance used to determine whether hazardous emissions or materials would have a significant impact upon an existing or proposed school, as discussed above. Thus, the geographic scope considered for cumulative impacts from health, safety, and hazardous materials/fire and fuels management is the area extending 1 mile from the boundary of the Project site. This standard coincides with the American Society of Testing and Materials standard search distance for hazardous materials, which is 1 mile. As discussed in Section 3.10.2, Environmental Setting, under Environmental Contamination, two hazardous material release sites (Desert Center Landfill and Desert Center Division Camp) and two hazardous material handling sites (no releases) (Lake Tamarisk Water Treatment Plant and Oberon Solar) were identified within 1 mile.

Cumulative Impacts. As discussed in Threshold "a," potential cumulative impacts from the transport, use, and disposal of hazardous materials during Project construction would be limited to the areas where concurrent cumulative Project construction is occurring or where concurrent roads are being used for construction traffic. An accident involving a hazardous material release during Project construction or operation through upset or accident conditions that may contain hazardous materials (i.e., petroleum-based lubricants, solvents, fuels, batteries, herbicides, and pesticides) to and from the Project site would typically be location specific. Implementation of the SPCC Plan, HMBP, Stormwater Pollution Prevention Plan, and MM HAZ-1 (Worker Environmental Awareness Program), as well as 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. When considered in conjunction with other cumulative projects, multiple simultaneous releases of hazardous materials at cumulative project sites could result in cumulative impacts to environmental conditions (such as comingled groundwater plumes). However, existing regulations require immediate cleanup and reporting of release of reportable quantities of hazardous materials, which would reduce or eliminate the potential for cumulative environmental impacts related to routine use and/or accidental upset or accident conditions.

Cumulative projects would also be subject to the same existing agency regulations as the Project, which address the handling and accidental release of hazardous materials during construction and O&M. Similar to the Project, cumulative projects would include project-specific Worker Environmental Awareness Programs for construction and O&M. Therefore, existing regulations would ensure that the combined effects related to hazards and hazardous materials from the Project and the cumulative projects within the geographic scope of analysis would not result in a cumulatively significant impact with respect to the transport, use, and disposal of hazardous materials.

As discussed in Threshold "b," construction of the Project could result in mobilization of *Coccidioides* fungus spores in airborne dust, incrementally contributing to cumulative fungus spores in airborne dust in the area in combination with other cumulative projects' ground-disturbing activities. If inhaled, such mobilization could expose workers and the public to contracting valley fever. Incorporation of stringent dust control regulations and incorporation of MM HAZ-1 into the Project would minimize the risk of workers or the public contracting valley fever.

Past, present, and reasonably foreseeable future projects would also be subject to existing agency regulations that address fugitive dust and would likely have similar mitigation to prepare dust control and air quality plans. Therefore, existing regulations and MMs would minimize the combined effects related to contracting valley fever from the cumulative projects. Accordingly, the Project's incremental contribution to the cumulative valley fever risk would not be cumulatively considerable. The Project's incremental impacts, in combination with other past, present, and probable future projects would not be cumulatively significant.

As discussed in Threshold "c," the Project would not alter roadways identified as evacuation routes in the County's Circulation Plan. Additionally, the Project's internal roads would be constructed in accordance with Riverside County Fire Code (Chapter 8.32) to allow fire and maintenance vehicle access. MM TRAF-1 (Construction Traffic Management Plan) would be implemented to minimize impacts during construction. Cumulative construction projects could result in multiple road closures and delays, cumulatively delaying emergency response or evacuation potential. However, traffic control implemented under MM TRAF-1 would reduce the Project's contribution to these impacts and cumulative projects would also be required to adhere to the County Fire Code and other existing regulations. Therefore, cumulative impacts to emergency evacuation would be less than significant.

As discussed in Threshold "e," the Project site is not located on or within proximity of a Cortese List site. Although the Project is not be located within the WWII DTC/CAMA, MM HAZ-2 would be implemented to further reduce possible non-significant impacts associated with the potential to encounter military waste debris and ordnances. Past, present, and reasonably foreseeable future projects with the potential to encounter military waste debris and ordnances would be required to implement similar precautionary measures. Therefore, cumulative impacts to would be less than significant.

The Project would have no impact with respect to Thresholds "d," "f," "g," "h," and "i," and therefore would make no contribution to any cumulative impacts associated with those thresholds.

3.10.4 Mitigation Measures

The following Mitigation Measures were developed to substantially lessen the potentially significant hazards impacts that could result from the construction, operation, maintenance, and decommissioning of the Project.

MM HAZ-1 **Worker Environmental Awareness Program.** A Worker Environmental Awareness Program shall be prepared, and all construction crews and contractors shall be briefed on the plan prior to starting work on the Project. The plan shall address health and safety issues associated with normal and unusual (emergency) conditions. The program shall include, but not be limited, to the following information and guidance:

- Environmental health and safety protocol (including, but not limited to, hazards of valley fever, including the symptoms, proper work procedures, when and how to use personal protective equipment, and informing supervisors of suspected symptoms of work-related valley fever)
- An emergency response plan
- Environmental awareness training, which shall include environmental, cultural, health, and safety training
- Noise/ear protection protocol
- First aid training
- Fire protection and extinguisher maintenance, guidance, and documentation
- Disposal of hazardous materials and waste guidance in accordance with local, state, and federal regulations

MM HAZ-2 **Unexploded Ordnance (UXO) Identification, Training, and Reporting Plan.** Where ground disturbance work is involved, the construction contractor shall have a representative that is Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER)-trained in accordance with standard 29CFR1910.120 on-call during construction activities to evaluate potential UXO findings. A UXO Identification, Training, and Reporting Plan will be developed and will be incorporated in the Worker Environmental Awareness Program (WEAP) training. The UXO Identification, Training, and Reporting Plan will properly train all site workers in the recognition, avoidance, and reporting of military waste debris and ordnance. The Applicant shall submit the plan, incorporated in the WEAP training, to the County and Bureau of Land Management (BLM) for review and approval prior to the start of construction. The plan shall contain, at a minimum, the following:

- A description of the training program outline and materials, and the qualifications of the trainers;
- Identification of available trained experts that will respond to notification of discovery of any ordnance (unexploded or not); and
- Work plan to recover and remove discovered ordnance.

MM TRAF-1 Construction Traffic Management Plan. *See full text in Section 3.19, Transportation.*

3.10.5 References

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3.11 Hydrology and Water Quality

This section includes an analysis of the impacts to hydrology and water quality that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning the proposed project (Project). The analysis in this section describes the applicable regulations, provides information on existing conditions that influence hydrology and water quality in and surrounding the Project site, identifies the criteria used for determining the significance of environmental impacts, describes the Project's potential impacts related to hydrology and water quality, and lists Mitigation Measures (MMs) that would be incorporated into the Project to avoid and/or substantially lessen to the extent feasible potentially significant impacts.

Issues raised during the scoping process included water supply and groundwater. Comments received noted concerns of water availability at locally operated wells and local reliance on groundwater. There were concerns regarding the Project's water use and the cumulative impacts of solar development on the ecosystem.

The information in this section is based on multiple online sources and published documents, as well as the technical documents prepared for the proposed project including the Water Supply Assessment (Appendix E), and Hydrology, Hydraulics, and Water Quality Report (Appendix P).

3.11.1 Regulatory Framework

Federal Laws, Regulations, and Policies

Clean Water Act (33 USC Section 1251 et seq.). Formerly the Federal Water Pollution Control Act of 1972, the Clean Water Act (CWA) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA, enforced by the U.S. Environmental Protection Agency, requires states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain non-point-source discharges to surface water.

Section 402 of the CWA requires that direct and indirect discharges and stormwater discharges into waters of the United States be pursuant to a National Pollutant Discharge Elimination System (NPDES) permit for industrial or construction activities. NPDES permits contain industry-specific, technology-based limits and may include additional water quality-based limits and pollutant-monitoring requirements. An NPDES permit may include discharge limits based on federal or state water quality criteria or standards. NPDES permitting authority is delegated to, and administered by, the California State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs).

Section 404 of the CWA authorizes the U.S. Army Corps of Engineers to regulate the discharge of dredged or fill material to the waters of the United States and adjacent wetlands. Discharges to waters of the United States must be avoided where possible and minimized and mitigated where avoidance is not possible. Permits are issued by the U.S. Army Corps of Engineers.

Section 401 of the CWA requires that any activity that may result in a discharge into waters of the United States be certified by RWQCB. This certification ensures that the proposed activity follows state and/or federal water quality standards.

National Flood Insurance Act/Flood Disaster Protection Act. The National Flood Insurance Act of 1968 made flood insurance available for the first time. The Flood Disaster Protection Act of 1973 made the purchase of flood insurance mandatory for the protection of property located in Special Flood Hazard Areas.

These laws led to mapping of regulatory floodplains and to local management of floodplain areas according to federal guidelines, which include prohibiting or restricting development in flood hazard zones.

Colorado River Accounting Surface. Based on the Colorado River Compact of 1922, and the 1928 apportionment of lower Colorado River water by the U.S. Congress, groundwater in the river aquifer beneath the floodplain is considered Colorado River water, and water pumped from wells on the floodplain is presumed to be river water and is accounted for as Colorado River water (USGS 2009). The accounting-surface method was developed in the 1990s by the U.S. Geological Survey (USGS), in cooperation with the U.S. Bureau of Reclamation (USBR), to identify wells outside the floodplain of the lower Colorado River that yield water that will be replaced by water from the river. This method was needed to identify which wells require an entitlement for diversion of water from the Colorado River and need to be included in accounting for consumptive use of Colorado River water, as outlined in the Consolidated Decree of the U.S. Supreme Court in *Arizona v. California*.[1] Wells within the Chuckwalla Valley Groundwater Basin (CVGB) that draw water from below the accounting surface require an entitlement for the use of that water (USGS 2009). Within the Project site, the accounting surface is at an elevation of 238 to 240 feet above mean sea level (amsl) (USGS 2009). Extractions of water below that elevation are prohibited without an entitlement. Entitlements to extract and use the groundwater below the accounting surface are granted by USBR through its designated representative in California, the Colorado River Board of California. Entities in California are using California's full apportionment of Colorado River water, meaning that all water is already contracted, and no new water entitlements are available in California.

State Laws, Regulations, and Policies

California Streambed Alteration Agreement. Sections 1600–1616 of the California Fish and Game Code require that any entity that proposes an activity that will substantially divert or obstruct the natural flow of any river, stream, or lake, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake, or deposit material into any river, stream, or lake, must notify the California Department of Fish and Wildlife (CDFW). If the proposed alteration will impact a State jurisdictional river, stream, or lake, a Lake or Streambed Alteration Agreement will be prepared. The agreement applies to any stream, including ephemeral streams and desert washes.

California Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act of 1967, California Water Code Section 13000 et seq., requires SWRCB to adopt water quality criteria to protect state waters. Each RWQCB has developed a Water Quality Control Plan (Basin Plan) specifying water quality objectives, beneficial uses, numerical standards of pollution concentrations, and implementation procedures for waters of the state. Waters of the state are defined by the Porter-Cologne Water Quality Control Act as "any surface water or groundwater, including saline waters, within the boundaries of the State." General objectives of the Basin Plans state that all waters (of the state) shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. The Basin Plans are intended to protect designated beneficial uses of waters, avoid altering the sediment discharge rate of surface waters, and avoid introducing toxic pollutants to the water resource. The Porter-Cologne Water Quality Control Act requires anyone proposing to discharge waste that could affect the quality of the waters of the state to

[1] The treaties, compacts, decrees, statutes, regulations, contracts, and other legal documents and agreements applicable to the allocation, appropriation, development, exportation, and management of the waters of the Colorado River Basin are often collectively referred to as the Law of the River. There is no single, universally agreed upon definition of the Law of the River but it is useful as a shorthand reference to describe this longstanding and complex body of legal agreements governing the Colorado River.

report the waste discharge to the appropriate RWQCB. The Project is located within Colorado River Basin Region (Region 7), which is under the jurisdiction of the Colorado River Basin RWQCB.

SWRCB Storm Water Program Construction General Permit (Construction General Permit). The Construction General Permit, required by the federal CWA, regulates stormwater runoff from construction sites of 1 acre or more in size. The Construction General Permit is a statewide, standing permit. Qualifying construction activities must obtain coverage under the permit by filing a Notice of Intent with RWQCB and by developing and complying with a Stormwater Pollution Prevention Plan (SWPPP) describing best management practices (BMPs) the discharger will use to protect stormwater runoff. The SWPPP must contain a visual monitoring program, a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the Section 303(d) list (described below) for sediment.

The Construction General Permit prohibits the discharge of pollutants other than stormwater and non-stormwater discharges authorized by the Construction General Permit or another NPDES permit and prohibits all discharges that contain a hazardous substance in excess of reportable quantities established in Title 40, Sections 117.3 and 302.4, of the Code of Federal Regulations (pursuant to Section 311 of the CWA), unless a separate NPDES permit has been issued to regulate those discharges. In addition, the Construction General Permit incorporates discharge prohibitions contained in Basin Plans. Discharges to Areas of Special Biological Significance are prohibited unless covered by an exception that SWRCB has approved.

The CWA provides definitions for BMPs, which may include runoff control, soil stabilization, sediment control, proper stream crossing techniques, waste management, spill prevention and control, and a wide variety of other measures depending on the site and situation.

Water Rights. California water law is embodied in the California Water Code and the Water Commission Act of 1914. There are two basic kinds of rights to surface water: riparian and appropriative. As the Project does not propose the use of surface waters, these rights are not relevant to the Project. Percolating groundwater, under which category the CVGB falls, has no SWRCB permit requirement. The CVGB supports two types of water rights: overlying rights and groundwater appropriative rights. Overlying rights indicate that all property owners above a common aquifer possess a mutual right to the use of that groundwater. Groundwater appropriative rights allow the pumping of groundwater in one location to be diverted (appropriated) to another location. However, those with overlying rights have priority among other appropriators on a "first in time" use basis. Overlying users cannot take unlimited quantities of water without regard to the needs of other users.

The California Water Code allows any local public agency that provides water service whose service area includes a groundwater basin or portion thereof that is not subject to groundwater management pursuant to a judgment or other order to adopt and implement a groundwater management plan (California Water Code Section 10750 et seq.). Groundwater management plans often require reports of pumping and some restrictions on usage. The California legislature has found that by reason of light rainfall, concentrated population, the conversion of land from agricultural to urban uses, and heavy dependence on groundwater, the Counties of Riverside, Ventura, San Bernardino, and Los Angeles have certain reporting requirements for groundwater pumping. Any person or entity that pumps more than 25 acre-feet (AF) of water in any 1 year must file a Notice of Extraction and Diversion of Water with SWRCB (California Water Code Section 4999 et seq.).

The Project is located on land that overlies the CVGB, for which a method was developed by USGS, in cooperation with USBR, to identify groundwater wells outside the floodplain of the lower Colorado River that yield water that will be replaced by water from the river. The specific method to determine whether

wells draw water from the Colorado River (referred to as the accounting surface) has not been promulgated by USBR. However, wells placed into the groundwater beneath and within the Project's vicinity that extract groundwater may, depending on whether the groundwater surface is above or below the accounting surface, be considered as drawing water from the Colorado River and require an entitlement to extract groundwater.

California Senate Bill (SB) 610. SB 610, passed in 2002, amended the California Water Code to require detailed analysis of water supply availability for certain types of development projects, and to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 requires detailed information regarding water availability to be provided to the city and county decision makers prior to approval of specified large development projects. SB 610 requires that a project be supported by a Water Supply Assessment (WSA) if the project is subject to the California Environmental Quality Act (CEQA), and qualifies as a "project." Per California Water Code Section 10912(a), a "project" means any of the following:

1. A proposed residential development of more than 500 dwelling units
2. A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space
3. A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space
4. A proposed hotel or motel, or both, having more than 500 rooms
5. A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area
6. A mixed-use project that includes one or more of the projects specified in this subdivision
7. A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project

SB 610 indicates that if the projected water demand associated with a proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the WSA for the project shall include a discussion regarding whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years, over a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

Sustainable Groundwater Management Act. On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package—Assembly Bill 1739, SB 1168, and SB 1319—collectively known as the Sustainable Groundwater Management Act (SGMA), which requires local and regional Groundwater Sustainability Agencies with management authority over high- and medium-priority basins to manage their respective basins within their sustainable yield, in line with minimum thresholds to avoid undesirable results, including chronic lowering of groundwater levels. Under the SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically overdrafted basins, the agencies must develop planning goals and criteria to achieve sustainability by 2040. For the remaining high- and medium-priority basins, 2042 is the deadline. Through the SGMA, the California Department of Water Resources (DWR) provides ongoing support to local agencies through sustainability plan review, guidance, financial assistance, and technical assistance. The SGMA empowers local agencies to form

Groundwater Sustainability Agencies to manage basins sustainably and requires completion of Groundwater Sustainability Plans (GSPs) for crucial (i.e., medium- to high-priority) groundwater basins in California. Among other requirements, GSPs must consider the interests of all beneficial uses and users of groundwater, including environmental users of groundwater, and develop planning goals and criteria to avoid impacts such as significant and unreasonable depletions of interconnected surface water. GSPs must also identify and consider impacts to groundwater-dependent ecosystems within the basin. As trustee for California's fish and wildlife resources, CDFW engages as a stakeholder in groundwater planning processes where resources allow to represent the groundwater needs of groundwater-dependent ecosystems and fish and wildlife beneficial uses.

State Water Resources Control Board Policies

Antidegradation Policy (Resolution No. 68-16). This policy requires RWQCB, in regulating the discharge of waste, to (1) maintain existing high-quality waters of the state until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial uses, and will not result in water quality less than that described in SWRCB or RWQCB policies; and (2) requires that any activity that produces or may produce a waste or increased volume or concentration of waste, and that discharges or proposes to discharge to existing high-quality waters, to meet waste discharge requirements that will result in the best practicable treatment or control of the discharge necessary to ensure that a pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the state will be maintained.

Sources of Drinking Water Policy (Resolution No. 88-63). This policy designates all groundwater and surface waters of the state as potential sources of drinking water, worthy of protection for current or future beneficial uses except under certain specific exemptions.

Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under California Water Code Section 13304 (Resolution No. 92-49). This policy establishes requirements for investigation and cleanup and abatement of discharges. Under this policy, cleanup and abatement actions are to implement applicable provisions of Title 23 of the California Code of Regulations Chapter 15, to the extent feasible. The policy also requires the application of Section 2550.4 of Chapter 15 when approving any alternative cleanup levels less stringent than background. It requires remediation of the groundwater to the lowest concentration levels of constituents technically and economically feasible, which must at least protect the beneficial uses of groundwater, but need not be more stringent than is necessary to achieve background levels of the constituents in groundwater.

Local Laws, Regulations, and Policies

Riverside County Ordinance No. 682 (as amended through 682.4), an Ordinance of the County of Riverside Regulating the Construction, Reconstruction, Abandonment and Destruction of Wells and Incorporating by Reference Ordinance No. 725. This ordinance provides minimum standards for construction, reconstruction, abandonment, and destruction of all wells to (1) protect underground water resources and (2) provide safe water to persons within Riverside County (County).

Ordinance No. 650 (as amended through 650.6), an Ordinance of the County of Riverside Amending Ordinance No. 650 Chapter 8.124 of the Riverside County Code Regulating the Discharge of Sewage in the Unincorporated Areas of the County of Riverside and Incorporating by Reference Ordinance No. 725. This ordinance protects water quality and public health by establishing regulations for the installation, replacement, and performance of on-site wastewater treatment systems.

Desert Center Area Plan. The Desert Center Area Plan (County of Riverside 2021) does not state any goals or policies related to water resources.

3.11.2 Environmental Setting

The Project site is in the Chuckwalla Valley of Riverside County approximately 3 miles north of the community of Desert Center, California. The Project site lies within the Sonoran Desert ecoregion of the Mojave Desert Geomorphic Province, a broad interior region of isolated mountain ranges separated by expanses of desert plains. The Chuckwalla Valley is part of an interior enclosed drainage system, meaning there is no surface water outlet to the ocean. Surface water that does not infiltrate into the ground flows to shallow lake beds which, being dry most of the time, are known as dry lakes or playas. The Project site lies on alluvial fans emanating from the Chuckwalla Mountains to the south. The Chuckwalla Valley is bisected by a broad drainage system that extends southeast between the Chuckwalla and Coxcomb mountains to the Palen Dry Lake, located approximately 6 miles east of the Project site. The elevation of the Project site ranges from approximately 550 feet amsl in the eastern solar parcel to 660 feet amsl near the western end of the parcel. The surrounding mountains rise to more than 3,000 feet amsl (BLM 2011). The Project site, including the generation tie (gen-tie) line and access roads, are relatively flat with a slight descending slope to the northeast.

Climate and Precipitation

The Chuckwalla Valley, being part of the Sonoran Desert ecoregion, is characterized by high aridity, low precipitation, hot summers, and cool winters. Average maximum temperature is 108°F in July. Average minimum temperature is 66.7°F in December (BLM 2011). Average annual precipitation, based on the gauging station at Blythe Airport, is approximately 3.6 inches, with August recording the highest monthly average of 0.64 inches and June recording the lowest monthly average of 0.02 inches. Most rainfall occurs during the winter months, or in association with summer tropical storms, which tend to be of shorter duration and higher intensity than winter storms (BLM 2011). Eastern Riverside County is currently (November 2023) classified by the National Drought Mitigation Center, National Oceanic and Atmospheric Administration, and U.S. Department of Agriculture as not being in a drought to abnormally dry (U.S. Drought Monitor 2023).

Groundwater

A WSA was prepared for the Project (refer to Appendix E of this EIR). The groundwater information presented below is based on information presented in the WSA and other published reports, as cited.

Groundwater Overview

The Project site overlies the CVGB, which covers an area of 940 square miles in eastern Riverside County, California. The CVGB underlies the Chuckwalla Valley and is bounded by consolidated rocks of the Mule and McCoy Mountains on the east; the Chuckwalla and Little Chuckwalla Mountains on the south; the Eagle Mountains on the west; and the Coxcomb, Granite, and Little Maria Mountains on the north. The CVGB is also bordered by the Orocopia Valley Groundwater Basin on the west; the Palo Verde Mesa Groundwater Basin on the east; the Arroyo Seco Groundwater Basin on the southeast; small portions of the Cadiz Valley, Ward Valley, and Rice Valley Groundwater Basins on the north; and the Pinto Valley Groundwater Basin on the northwest.

The CVGB aquifer consists of Pliocene- to Quaternary-age sediments divided into the Pinto Formation, Bouse Formation, and Quaternary alluvium.[2] These deposits are upward of 1,200 feet thick and are largely considered unconfined to semi-confined. The total storage capacity of the CVGB is estimated to be approximately 9,100,000 AF, and recoverable storage is estimated to be 15,000,000 AF. The average specific yield[3] of the upper 500 feet of unconsolidated sediments is estimated to be 10% (DWR 2004). The groundwater storage estimate of 9,100,000 AF is used in the water budget for this Project.

The CVGB is an unadjudicated groundwater basin considered very low priority under SGMA (DWR 2023). Owners of property overlying the basin have the right to pump groundwater from the basin for reasonable and beneficial use, provided that the water rights were never severed or reserved. Groundwater production in the basin is not managed by an entity and no groundwater management plan or GSP has been submitted to DWR. In addition, no urban water management plan or integrated regional water management plan have been prepared for the Project site.

Current and historical groundwater extraction in the CVGB includes agricultural water use, pumping for Chuckwalla and Ironwood State Prisons, pumping for the Tamarisk Lake development and golf course, pumping for solar farm construction and operation, domestic pumping, and a minor amount of pumping by Southern California Gas Company.

Groundwater Trends

While historical records show groundwater levels within 50 feet of ground surface, current groundwater levels in the CVGB range from approximately 100 to 300 feet below ground surface. Regional groundwater flow is from the northwest to the southeast. Groundwater level data collected in recent decades show mostly stable groundwater levels in the eastern and western portions of the CVGB, and slowly declining groundwater levels in the west-central portion of the CVGB where the majority of groundwater wells are located. Groundwater levels in the eastern and western portions of the CVGB fluctuate by approximately 1 foot on a seasonal basis. Groundwater levels in the west-central portion of the CVGB have declined by approximately 5 feet in recent years. Static groundwater levels across the western portion of the CVGB are currently approximately 100 to 250 feet above the accounting surface.

In general, available monitoring data show a relatively stable groundwater surface, interrupted by local pumping depressions. Groundwater levels in the CVGB have remained stable even during periods of below-average precipitation, and despite high temporary water demands for solar project construction.

Baseline Groundwater Budget

For the WSA, a baseline groundwater budget was calculated for the CVGB that includes all existing water uses in the CVGB (refer to Appendix E for the derivation of this budget). This budget indicates an estimated total annual inflow of approximately 13,719 acre-feet per year (AFY) (Table 3.11-1). Subtracting the estimated total outflows from the total inflows results in a net surplus of approximately 2,159 AFY, indicating the CVGB is currently close to capacity in terms of groundwater extraction. This budget represents a normal (average) year, in terms of precipitation and water use. For a single dry year and year one of a multiple dry-year condition, there is an estimated groundwater surplus of 12 AFY and 841 AFY, respectively. For the second and third years of multiple-dry water year conditions, there is an estimated

[2] The Pliocene Epoch extends from approximately 5.33 million to 2.58 million years before present and the Quaternary Period extends from approximately 2.58 million years ago to the present.

[3] Specific yield is the quantity of water that a unit volume of saturated permeable rock or soil will yield when drained by gravity, expressed as a ratio or percentage by volume.

groundwater deficit of −417 AFY and −1,706 AFY, respectively. However, the deficits experienced in the CVGB during dry years are generally made up by the surplus experienced during normal and above-normal years, which means that the CVGB is not expected to have a long-term overdraft condition (Appendix E).

Table 3.11-1. Estimated Normal Year Baseline Groundwater Budget for the Chuckwalla Valley Groundwater Basin

Budget Components	Acre-Feet per Year
Inflow	
Recharge from Precipitation	+8,588
Underflow from Pinto Valley and Orocopia Valley Groundwater Basins	+3,500
Irrigation/Wastewater Return Flow	+1,631
Total Inflow	+13,719
Outflow	
Groundwater Extraction	−10,810
Underflow to Palo Verde Mesa Groundwater Basin	−400
Evapotranspiration at Palen Dry Lake	−350
Total Outflow	−11,560
Budget Balance (Inflow – Outflow)	**+2,159**

Source: Table 9 in Appendix E.

Groundwater Quality

Groundwater quality in the CVGB is characterized by elevated concentrations of total dissolved solids (TDS), chloride, fluoride, sulfate, sodium, and boron. Arsenic, lead, chromium, and other metalloids and metals are also commonly detected at levels that exceed state and federal drinking water standards. These constituents can impair groundwater for domestic and irrigation use. TDS concentrations in the basin range from 274 to 12,300 milligrams per liter, with the lowest concentrations observed in the western portion of the basin. In general, groundwater in the CVGB is sodium chloride to sodium sulfate-chloride in character. Groundwater from the CVGB requires treatment in order to meet drinking water standards.

Surface Water

A Hydrology, Hydraulics, and Water Quality Report was prepared for the Project (refer to Appendix P of this EIR). The surface water information presented below is based on information presented in the Hydrology, Hydraulics, and Water Quality Report and other published reports, as cited.

Hydrology and Flooding

The Project site is in the Palen Hydrologic Area, which encompasses an area of approximately 656 square miles draining the Eagle, Coxcomb, Granite, Palen, and Chuckwalla Mountains. Most of the precipitation that falls in the Palen Hydrologic Area evaporates, is transpired by plants, or infiltrates into the ground. Perennial streams do not occur in the Chuckwalla Valley. Palen, Ford, and several smaller dry lakes are at topographic low points. Natural surface water features in the Project site are ephemeral, meaning that they only convey flows in direct response to precipitation events. Artificial surface water features in the area are limited to water storage ponds for agriculture and the Lake Tamarisk development. The majority of the Project site is on private land previously used for agriculture. Evidence of past farming disturbances are apparent at the Project site and have modified the natural hydrology of the site.

The Project site is subject to storm flows due to its location on an active desert alluvial fan. Northeasterly flowing ephemeral streams and washes that fan out from the Eagle Mountains in the west flow through and around the Project site. The Project site is within Federal Emergency Management Agency Zone D, Area of Undetermined Flood Hazard. However, the entire Project site is within a DWR Flood Hazard Awareness Zone (Figure 3.11-1, Flood Map). Flow depth and velocity modeling for existing conditions was performed with an unsteady flow analysis for a 100-year, 3-hour storm to model hydraulics throughout the Project site. Modeling results indicate that maximum water depths for the majority of the Project site can reach an average height of 1 to 2 feet and velocities can reach an average speed of 2 to 3 feet per second (refer to Appendix P of this EIR).

Water Quality

The Project is under the jurisdiction of the Colorado River Basin RWQCB. The Basin Plan developed by RWQCB for the Colorado River Basin establishes water quality objectives, including narrative and numerical standards, to protect the beneficial uses of surface waters and groundwaters in the region. The Basin Plan describes implementation plans and other control measures designed to ensure compliance with statewide plans and policies, and documents comprehensive water quality planning.

Beneficial uses of waters, also designated by RWQCB, include consumptive and non-consumptive uses. Consumptive uses are those normally associated with people's activities, primarily municipal, industrial, and irrigation uses that consume water and cause corresponding reduction and/or depletion of water supply. Non-consumptive uses include swimming, boating, waterskiing, fishing, hydropower generation, and other uses that do not significantly deplete water supplies.

Historical beneficial uses of water within the Colorado River Basin Region have largely been associated with irrigated agriculture and mining. Industrial use of water has become increasingly important in the region, particularly in the agricultural areas (RWQCB 2019).

The RWQCB Basin Plan (RWQCB 2019) lists specific beneficial uses for surface waters and groundwater. Jurisdictional surface waters on the Project site would be classified as washes (ephemeral streams) for which beneficial uses are as follows:

- Groundwater Recharge (GWR)
- Non-Contact Water Recreation (REC II)
- Warm Freshwater Habitat (WARM) (to be established on a case-by-case basis)
- Wildlife Habitat (WILD)
- Beneficial uses of the CVGB are as follows:
- Municipal and Domestic Supply (MUN)
- Industrial Service Supply (IND)
- Agriculture Supply (AGR)

Surface water and groundwater in the Project site are considered suitable, or potentially suitable, for municipal or domestic water supply except under the following circumstances (RWQCB 2019):

- Surface water and groundwater where the TDS exceed 3,000 milligrams per liter, and it is not reasonably expected by RWQCB to supply a public water system
- There is contamination, either by natural process or by human activity, that cannot be treated for domestic use using either management practices or best economically achievable treatment practices

- The water source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day
- Surface water in systems designed or modified for the primary purpose of conveying or holding agricultural drainage waters, provided that the discharge from such systems is monitored to ensure compliance with all relevant water quality objectives, as required by RWQCB

RWQCB sets water quality objectives to ensure the protection of beneficial uses and the prevention of nuisance, although it is understood that water quality can be changed to some degree without unreasonably affecting beneficial uses (RWQCB 2019). Current objectives for surface water in the area include those for aesthetic qualities, tainting substances, toxicity, temperature, pH, dissolved oxygen, suspended and settleable solids, dissolved solids, bacteria, biostimulatory substances, sediment, turbidity, radioactivity, chemical constituents, and pesticide wastes. Specific information on these objectives is provided in the Basin Plan (RWQCB 2019). Groundwater objectives include those for taste and odors, bacteriological quality, chemical and physical quality, brines, and radioactivity. RWQCB has objectives for groundwater overdraft for several specific groundwater basins, but the CVGB is not listed among these.

Section 303(d) of the CWA requires states to assess surface water quality and prepare a list of waters (known as the Section 303[d] list of water quality limited segments) considered to be impaired by not meeting water quality standards and not supporting their beneficial uses. Impairment may result from point-source pollutants or non-point-source pollutants. None of the waters in or near the Project are currently listed as impaired (SWRCB 2022).

3.11.3 Impact Analysis

Methodology

This section analyzes impacts on hydrology and water quality from the implementation of the Project based on changes to the environmental setting as described above, identified drainage conditions in the Project site, and the current regulatory framework. The Project's potential impacts to hydrology and water quality were evaluated using the Water Supply Assessment (Appendix E), and Hydrology, Hydraulics, and Water Quality Report (Appendix P) prepared for the Project, as well as a variety of resources, including multiple online sources and published documents were used. Using the aforementioned resources, impacts were analyzed according to CEQA significance criteria described below. Mitigation measures that are incorporated into the Project to avoid or reduce potential impacts are provided. The analysis also considers the potential for incremental impacts of the Project to combine with impacts of other projects and activities to adversely affect hydrology and water quality.

Criteria for Determining Significance

Section X of Appendix G to the State CEQA Guidelines addresses typical adverse effects to hydrology and water quality and includes the following threshold questions to evaluate a project's impacts on hydrology and water quality. Would the project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

   i) result in substantial erosion or siltation on- or off-site;

   ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

   iii) create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or

   iv) impede or redirect flood flows?

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The County's Environmental Assessment Checklist includes the same significance thresholds as Section X of Appendix G to the State CEQA Guidelines (listed above).

Environmental Impacts

This section includes an examination of the Project's impacts to hydrology and water quality per Appendix G of the State CEQA Guidelines and the County's Environmental Assessment Checklist identified above.

Threshold a: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

LESS THAN SIGNIFICANT

Surface Water. Construction of the Project would require mowing and grading for the solar panels, access roads, gen-tie line, an operations and maintenance (O&M) building, substation, a battery energy storage system (BESS), and other Project components. Disturbance of soil during construction could result in soil erosion and temporary lower water quality through increased turbidity and sediment deposition into local washes. Downstream beneficial uses (refer to Section 3.11.2, Environmental Setting) could be adversely affected through violation of RWQCB water quality standards and objectives for suspended solids, TDS, sediment, and turbidity.

Accidental spills or disposal of harmful materials used during construction of the Project could wash into and pollute surface waters or groundwater, if not managed appropriately. Materials that could contaminate the construction area or spill or leak include diesel fuel, gasoline, lubrication oil, cement slurry, hydraulic fluid, antifreeze, transmission fluid, lubricating grease, and other fluids. Downstream beneficial uses could be adversely affected through violation of RWQCB water quality objectives for toxicity and chemical constituents.

The dry nature of most of the alluvial fan washes is such that should material spills occur during construction, they could likely easily be cleaned up prior to any possibility of water being contaminated. Groundwater is well below the maximum depth of excavation, resulting in little likelihood that groundwater could be directly affected from spills during construction. Fuel and greases for construction equipment would be stored in temporary aboveground storage tanks or sheds located on the Project site with secondary containment measures in place. The fuels stored on site would be in a locked container

within a fenced and secure temporary laydown area. Hazardous materials, if present, would be stored in segregated storage with secondary containment as necessary, records of storage and inspections would be maintained, and proper off-site disposal would be provided.

Potential impacts on water quality from erosion and sedimentation are expected to be localized and temporary during construction. Stormwater runoff from the project site would not discharge to waters of the United States since the Project area is within a watershed that is not hydrologically connected to a navigable waterway. Development and adherence to a SWPPP, in conformance with the California Construction General Permit (refer to Section 3.11.1, Regulatory Framework), would require BMPs to prevent and control erosion and siltation during construction; prevent, contain, and mitigate accidental spills during construction; and prevent violation of water quality objectives or damage to beneficial uses identified in the RWQCB Colorado River Basin Plan.

Potential threats to surface water quality during operational activities include potential increases in erosion and associated sediment loads to adjacent washes, and accidental spills of hydrocarbon fuels, greases, and other materials associated with operation of equipment on site. As described for construction, hazardous materials use, storage, and disposal would be regulated on site in accordance with applicable regulatory requirements. These materials are not intended to be released to the environment, but if spilled or otherwise accidentally released, these substances could have the potential to contaminate surface water or groundwater. As discussed in Section 3.10, Hazards and Hazardous Materials, the Hazardous Materials Business Plan (Appendix M) would delineate hazardous material and hazardous waste storage areas; describe proper handling, storage (including secondary containment), transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction and operation; and establish public and agency notification procedures for spills and other emergencies.

These impacts would also be mitigated by compliance with the California General Construction Storm Water Permit described in Section 3.11.1, if applicable.

Decommissioning of the Project is expected to potentially result in adverse impacts related to hydrology and water quality, similar to construction impacts. Demolition, excavations, and site restoration grading could result in potential increases in sediment loads to adjacent washes and/or accidental spills of hydrocarbon fuels and greases and other materials associated with motorized equipment and construction work. A Closure, Decommissioning, and Reclamation Plan would be prepared for the Project that would be designed to ensure public health and safety, environmental protection, and compliance with all applicable laws, ordinances, regulations, and standards, including those related to water quality.

Existing state and federal water quality regulations, including the proposed SWPPP, are intended to ensure that water quality standards and waste discharge standards would not be violated during construction, operations, and future decommissioning. The SWPPP would address and mitigate site-specific erosion impacts during construction, operation, and future decommissioning. With implementation of the SWPPP, the Project would not violate any surface water quality standards or waste discharge requirements or otherwise substantially degrade surface water quality. Therefore, with incorporation of the Hazardous Materials Business Plan; SWPPP; and Closure, Decommissioning, and Reclamation Plan, the Project would result in less-than-significant impacts.

Groundwater. In the event of incidental spills of petroleum products and hazardous materials during construction, operation, or future decommissioning, groundwater quality impacts could occur if those substances were allowed to migrate to the groundwater table. The potential for groundwater quality

impacts would be minimized with adherence to the Hazardous Materials Business Plan and the NPDES Construction General Permit.

The O&M building would produce sanitary wastewater, which would be treated and disposed of on site using a proposed septic system and leach field. The County Department of Environmental Health has permit and design requirements for wastewater treatment system design, including requirements for percolation, vertical distance from the groundwater table, and setbacks from the nearest groundwater well. The use and application of septic systems is an established practice as a method of wastewater treatment and disposal. Construction and design of the Project's septic system would be subject to the Department of Environmental Health permit and design requirements. As a result, the Project would not violate any groundwater quality standards or waste discharge requirements or otherwise substantially degrade groundwater quality. Therefore, the Project would result in less-than-significant impacts.

Threshold b: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Construction water use is expected to be between 100 AF and 300 AF total for the anticipated 12- to 18-month construction period. Construction water would be used primarily for dust control and soil compaction, with minor amounts for sanitary and other purposes. The average total annual water usage during operation is estimated to be up to 9 AFY for the assumed 39 years of operation. Water use during operations would be primarily for panel washing, restrooms, and general maintenance activities.

The Project's water needs would be met by use of groundwater pumped from on- or off-site wells or purchased from a local water purveyor. Whether purchased or directly pumped from on- or off-site wells, all water needs would be met by groundwater from the CVGB.

As discussed in Section 3.11.1, SB 610 indicates that a WSA shall be completed for any project that qualifies as a "project" per California Water Code Section 10912(a). Because the Project is an industrial project that would occupy more than 40 acres of land, a WSA is required. SB 610 indicates WSAs shall include a discussion regarding whether water supplies, during a 20-year projection, will meet the projected water demand associated with a proposed project, in addition to the existing and planned future uses of the water source, including agricultural and manufacturing uses. As a result, a Project-specific WSA (Appendix E) was completed that assessed the sufficiency of water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years over a 20-year projection and over the life of the Project. The WSA concluded that there is sufficient groundwater available for the Project, in addition to existing and planned future uses of the water supply. Based on the estimated baseline water budget for the CVGB, there is a groundwater surplus of 2,159 AFY during a normal (average) year condition (Table 3.11-1). The future water budget for the CVGB shows that there is a groundwater deficit of -1,201 AFY (normal-year) to -5,066 AFY (third year of multiple-dry-year) when the water demand of all proposed projects and projects currently under construction, including the Eagle Mountain Pumped Storage Project, are included. When the water demand of the Eagle Mountain Pumped Storage Project is excluded from the future water budget, there is an estimated groundwater surplus of 1,859 AFY and 571 AFY for normal-year and year one of a multiple-dry-year condition, respectively. However, for a single-dry-year and for the second and third years of a multiple-dry- year condition, there is an estimated groundwater deficit of -288 AFY, -717 AFY, and -2,006 AFY under this scenario. The deficits experienced in the CVGB during drought years would be made up by surpluses during normal and above-normal years (above-normal and wet years are not included in the table but would have higher surpluses). This means that it is not expected that the CVGB would have a long-term

overdraft condition even if every project in this cumulative scenario (excluding the Eagle Mountain Pumped Storage Project) were completed and the conservative water demand estimates were borne out. In year three of a multiple-dry-year condition in the CVGB, the Project's water demand would contribute approximately 1% or less to the total yearly deficit of -2,006 AF. Although a reduction in groundwater in storage is predicted to occur during a single dry year and the second and third years of a multiple dry year condition, the deficit would be small (≤0.02%) compared to the total volume of groundwater in storage, and the deficit is predicted to be erased during normal and above-normal years (above-normal and wet years are not included in the budget but would have higher surpluses). This means that it is not expected that the CVGB would have a long-term overdraft condition. Current groundwater levels are generally stable across the CVGB and have remained so even during periods of below average precipitation (Appendix E).

One potential concern is whether Project-related groundwater use could affect flows in the Colorado River. Any use of Colorado River water without an entitlement would be illegal and is otherwise subject to the Colorado River accounting surface requirements. However, given the distance of the Project from the Colorado River and the current elevation of the groundwater table being more than 100 feet above the lower Colorado River accounting surface, Project pumping is not anticipated to have any adverse effects on the Colorado River flows. Regardless, because of the sensitivity and critical conditions of water levels in the Colorado River, MM WAT-1 (Groundwater Monitoring, Reporting, and Mitigation Plan) is included to reduce the possibility of potential impacts related to local groundwater resources and Colorado River water supplies.

Groundwater extraction for the Project's construction, operation, and future decommissioning water supply would cause drawdown in the immediate vicinity of the well(s) used to produce groundwater for the Project, at least temporarily during active pumping. This is true regardless of whether the wells used are on or off site. Based on generalized hydrogeologic characteristics of the basin and aquifer hydraulic properties from pumping tests conducted for other projects in the Desert Center area of the CVGB, predicted groundwater level drawdown at a distance of 500 feet from the on-site or off-site Project production well is estimated to only be between 1 and 1.5 feet, and less at greater distances (Appendix E). The water level drawdown may have the potential to affect nearby wells by lowering localized water levels such that other wells' operational capability is affected, causing pumping rates to decline or resulting in increased costs for pumping and operation. Incorporation of MM WAT-1 includes the development and implementation of a Groundwater Monitoring, Reporting, and Mitigation Plan (GMRMP) prior to the onset of groundwater pumping for the Project. The GMRMP would provide a detailed methodology for monitoring groundwater levels and water quality in the Project production well(s) and closest accessible private well(s). If monitoring indicates an adverse effect on existing private wells, reduction of pumping, cessation of pumping, and/or compensation for affected nearby wells would be required to substantially reduce the impact.

With respect to groundwater recharge, the Project site is currently fallow agricultural land, and the surface is pervious, allowing groundwater recharge of all runoff at the site. The Project would introduce new impervious surfaces from the O&M building, the BESS units, the substation control building, and the inverters. However, the solar panels would only nominally impede infiltration of rainfall. The solar panels would be mounted on steel support posts and the intervening areas between posts would be unpaved and pervious. Solar field development would maintain sheet flow of stormwater runoff where possible, thus allowing stormwater infiltration into on-site soils. Electrical inverters and the transformer would be placed on concrete foundation structures or steel skids. The gen-tie line structures would be constructed of either tubular steel monopoles or lattice structures. The footprint of the on-site substation would cover up to 15 acres. The dimensions and total number of BESS enclosures to be installed would not be known

until a manufacturer has been selected, but typical enclosures are approximately 70 feet long by 13 feet wide by 15 feet high. The O&M building would be up to 3,600 square feet and set on concrete slab-on-grade that would be poured in place within the solar site. The areas between the substation, substation equipment (i.e., transformers, breakers, switches, meters, and related equipment), BESS enclosures, O&M building, and storage building would primarily be unpaved and pervious. With regard to available area for groundwater recharge, the area of impervious surfaces created by construction of these facilities would be nominal with respect to the size of the Project. As a result, the Project would not interfere substantially with groundwater recharge.

With incorporation of MM WAT-1, the Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin. Therefore, with incorporation of MM WAT-1, the Project would result in less-than-significant impacts.

Threshold c-i: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Earthwork for Project construction would require the use of heavy machinery for vegetation removal, grading, installation of roads, the solar field, transmission facilities, the O&M building, the substation, the BESS, and other facilities. Construction and future decommissioning of these facilities would involve the use of tractors, bulldozers, graders, trucks, and various other types of heavy equipment, and would involve minor changes to on-site topography. These activities would loosen existing surface soils and sediments, increasing the potential for erosion during storm events, along with associated effects such as increased downstream sediment yields from on-site disturbed areas. Increased impervious areas could also lead to erosion by increasing the rate and frequency of runoff.

Grading that could result in alteration of drainages would be minimized by the proposed grading design, which would minimize the required volume of earth movement, as described in Chapter 2, Description of the Project. The Project site is relatively flat to gently sloping and would require minimal grading to allow for installation of the solar panels. Grading would be required only for the inverter pads, substation, driveways, and other improvements, including the access roads, gen-tie line, and BESS. The site would be contour-graded level and the overall topography and drainage patterns would remain unchanged, but within each solar array, high spots would be graded and the soil cut from these limited areas used to fill low spots within the same array. Very limited cut and fill would be completed within specific arrays to limit slope steepness and produce a consistent grade in each solar field area. The existing onsite berms along the edge of the Project boundary would be preserved wherever possible.

Once developed, the solar site would maintain sheet flow where possible, with water exiting the site in existing natural contours and flows. However, much of the solar site would be impacted by some form of ground disturbance, either from compaction, drive and crush or grading. There would be some light grubbing for leveling and trenching. Access roads would also be grubbed, graded, and compacted. As described above, impervious groundcover would be limited to foundations for the transmission structures and solar panels, compacted roads and parking areas, O&M building, BESS, and portions of the substation and switchyard.

Sheet flow would be maintained across the majority of the Project site, alteration of the existing drainage pattern and any associated erosion or siltation would be minimal. As described in MM BIO-10 (Stream Protection and Compensation), existing hydrologic patterns would be maintained with respect to runoff, and washes, stream beds, and stream banks would be avoided to the extent possible during construction

and decommissioning. However, in the absence of final grading plans and drainage plans, there remains a potential for alteration of drainage patterns and localized increased runoff in areas of proposed impervious surfaces, such as the BESS, such that erosion could occur, resulting in potentially significant impacts.

The Project Proponent would consult with CDFW and RWQCB to verify the limits of the jurisdiction results presented in the Jurisdictional Aquatic Resources Report (see Appendix H). Jurisdictional waters on the Project site would be avoided to the maximum extent practicable and the proposed internal access roads would be flush with the existing and surrounding ground to allow sheet flow to pass over and across the roadway without impeding the flow of jurisdictional features.

Additionally, a SWPPP would be incorporated in the Project to address potential erosion and siltation on or off site during construction activities. Erosion control measures would be included in the Closure, Decommissioning, and Reclamation Plan (Appendix J of the Project Plan of Development) that would be implemented during the decommissioning phase of the Project. In addition, a Project Drainage Plan would be incorporated in the Project to control runoff and prevent long-term erosion during operations. The Drainage Plan would include pre-development and post-development peak flow estimates and hydraulic calculations to determine flood conditions, floodplain limits, flood depths, and velocities. The plan would demonstrate the relationship of drainage and flood features to the components of the Project, including buildings, fences, substations, access roads, culverts, linear features, and panel supports. The plan would demonstrate adequate design to protect the Project site from flooding, erosion, and scour without adversely affecting adjacent property, inducing erosion, or concentrating or diverting flows. The Drainage Plan would include detailed design of flood retention features necessary to avoid any increase in downstream flood peak flow rates, including but not limited to retention basins and swales, thus minimizing the potential for off-site erosion and siltation of downstream washes and Palen Dry Lake. Finally, future decommissioning would involve site restoration, which would improve site conditions to approximate pre-Project conditions. With incorporation of the SWPPP and Project Drainage Plan, and future implementation of the Closure, Decommissioning, and Reclamation Plan, the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on or off site. Therefore, the Project would result in less-than-significant impacts.

Threshold c-ii: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

LESS THAN SIGNIFICANT. Although minimal alteration of drainage patterns is expected, development of the Project would change drainage patterns and there remains a relatively minor potential for the Project to increase the magnitude and frequency of runoff rates through the construction of impervious areas and by altering the ground surface characteristics through grading and removal of vegetation. Such increases in impervious surfaces and ground surface alterations could result in localized flooding on or off site, if not designed appropriately.

Construction of the Project can be divided into two types: long, linear construction related to improved access roads, internal emergency access roads and concentrated site development. Concentrated site development is estimated to cover less than 0.18% of the approximately 1,123-acre Project site and would include the BESS/Substation site and communication tower pads; these site features can typically avoid or minimize impacts on drainage channels. The internal access roads would be long, linear construction zones and therefore could run cross-gradient to drainage channels and be more difficult to avoid. The proposed project would include construction of the gen-tie line and any associated maintenance/access

roads to the line that could cross potentially jurisdictional waters. To minimize these impacts, the Project would linetap at the existing Desert Harvest gen-tie line approximately 1.25 miles to the west of the project. For new gen-tie line route located in LFF A, the proposed project is expected to have a negligible effect on impervious areas and surface flow because the poles and associated concrete foundations would be widely spaced, and their associated surface area would not be a significant factor in the hydrology of the project site and immediately surrounding area.

As discussed under Threshold "c-i," impervious areas would be limited to the foundations for the proposed solar panels, foundations for the transmission structures, the proposed O&M building and standalone storage building, BESS, and portions of the substation. The proposed parking area and roadways would be compacted, which would also increase the runoff potential. Together, these features are anticipated to be only a small portion of the 1,123-acre site; however, localized increased surface runoff could occur in the vicinity of proposed impervious surfaces, such as the BESS, resulting in flooding on or off site.

As described above, a Project Drainage Plan would be incorporated into the Project to control runoff volumes and rates and prevent on- and off-site flooding during operations. The Drainage Plan would include pre-development and post-development peak flow estimates and hydraulic calculations; would demonstrate the relationship of existing drainage features to the features of the Project, including buildings, fences, substations, access roads, culverts, linear features, and panel supports; and would demonstrate adequate design to protect from on- and off-site flooding. The plan would include detailed design of flood retention features necessary to avoid any increase in downstream flood peak flow rates consistent with County drainage control requirements. Finally, future decommissioning would involve site revegetation, which would improve surface runoff conditions to approximate pre-Project conditions. The Plan of Development prepared for the Project includes a Closure, Decommissioning, and Reclamation Plan (Appendix J of the Plan of Development) that would be implemented during the decommissioning phase of the Project. With incorporation of the Project Drainage Plan, and future implementation of the Closure, Decommissioning, and Reclamation Plan, the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in flooding on or off site. Therefore, the Project would result in less-than-significant impacts.

Threshold c-iii: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

LESS THAN SIGNIFICANT. The Project site and adjoining areas are currently largely undeveloped without stormwater drainage infrastructure. The Project site was previously used for agriculture and past farming practices have modified the natural hydrology of the site; however, runoff still occurs as overland sheetflow. As discussed for Threshold "c-i," localized increases in stormwater runoff would occur in the vicinity of proposed impervious surfaces. However, the Project Drainage Plan would be incorporated into the Project to control runoff volumes and rates, and prevent on- and off-site flooding during operations. The plan would include pre-development and post-development peak flow estimates and hydraulic calculations; would demonstrate the relationship of existing drainage features to Project features; and would demonstrate adequate design to protect from on- and off-site flooding. The plan would include detailed design of flood retention features necessary to avoid exceedance of the capacity of existing or planned stormwater drainage systems. In addition, although minor amounts of petroleum products and hazardous materials may be used for long-term maintenance of the Project's facilities, no large quantities

of hazardous materials that might be subject to upset and spills during a high-intensity rain event would be stored on site. In addition, hazardous materials would be stored in segregated storage with secondary containment as necessary, per a Hazardous Materials Business Plan. Finally, future decommissioning would involve site restoration, which would improve stormwater drainage conditions to approximate pre-Project conditions. With incorporation of the Project Drainage Plan, and future implementation of the Closure, Decommissioning, and Reclamation Plan, the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Therefore, the Project would result in less-than-significant impacts.

Threshold c-iv: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

LESS THAN SIGNIFICANT. As illustrated in Figure 3.11-1, the Project site is within a DWR Flood Hazard Awareness Zone. The solar panels would be mounted on posts at least 2 feet aboveground and would therefore not impede or redirect stormwater runoff. Similarly, power lines would be protected from flooding as a result of burying or installation on power poles. The proposed gen-tie line would be mounted overhead on steel poles, which would not substantively impede or redirect flood flows. Similarly, in terms of the access roads, drainage culverts would be installed at drainage crossings to prevent impeding or redirecting flood flows. However, the Project would include perimeter fencing which, if clogged with debris normally carried by natural flood flows in the desert, could impede and redirect flood flows and substantially increase the flood potential on and off site. Fence-induced diversions along the western boundary of the Project could cause flooding of the adjoining properties to the north and south. Security fences would not traverse the primary washes that cross the site. Structures (e.g., substation control room building, O&M building) placed in drainage areas or stormwater diversion features could also impede and redirect flood flows, which could increase flooding on or off site. The Project Drainage Plan requires that no flow-obstructing fences (i.e., block wall, etc.) be constructed perpendicular to existing drainage patterns and that fencing allow runoff to traverse the Project site unencumbered. In addition, the plan requires that proposed structures be located outside of primary drainages and the 100-year floodplain, or if located within such drainages or the floodplain, designed such that they would not impede or redirect flood flows, resulting in increased flooding of off-site properties. Finally, future decommissioning would involve site restoration, which would improve flood flow conditions to approximate pre-Project conditions. With incorporation of the Project Drainage Plan, and future implementation of the Closure, Decommissioning, and Reclamation Plan, the Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows. Therefore, the Project would result in less-than-significant impacts.

Threshold d: In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

LESS THAN SIGNIFICANT. The Project site is in an inland desert area and would not be subject to inundation by a tsunami. In addition, no water bodies (e.g., lake, reservoir, canal) capable of producing a seiche are present on site. As described in the Project's Hydrology, Hydraulics, and Water Quality Report (Appendix P), the Project site is located within the 100-year DWR Flood Hazard Awareness Zone but is outside of the Federal Emergency Management Agency 100-year floodplain in an area of minimal hazard (Figure 3.11-1). Because the Project is not within flood hazard, tsunami, or seiche zones, and the Project would not

store bulk quantities of hazardous materials, there would not be a risk of release of pollutants due to Project inundation. As a result, the Project would result in less-than-significant impacts.

Threshold e: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. As discussed in Threshold "a," existing state and federal water quality regulations, including the proposed SWPPP, are intended to ensure that water quality standards and waste discharge standards are not violated during construction, operations, and future decommissioning. The SWPPP would address and mitigate site-specific erosion-induced siltation impacts during construction, operation, and future decommissioning. In addition, construction and design of the Project's septic system would be subject to the Department of Environmental Health permit and design requirements. As a result, the Project would not conflict with or obstruct implementation of a Water Quality Control Plan. Groundwater production in the CVGB is not managed by an entity and no groundwater management plan or GSP has been submitted to DWR. In addition, no urban water management plan or integrated regional water management plan has been prepared for the Project site. As discussed for Threshold "b," with incorporation of MM WAT-1, the Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. As a result, the Project would not conflict with or obstruct implementation of a sustainable groundwater management plan. Therefore, the Project would result in less-than-significant impacts.

Cumulative Impacts

Geographic Scope. The Project is in the USGS Chuckwalla Hydrologic Unit (i.e., watershed), which is a closed surface water drainage basin that drains entirely to the Palen and Ford Dry Lakes. Because the watershed is a closed drainage basin, stormwater does not flow to other hydrologic units. Therefore, the area for cumulative hydrology and water quality analysis is confined to this hydrologic unit. The following existing, proposed, and reasonably foreseeable projects from Tables 3.1-1 and 3.1-2 in in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario, are located within this same hydrologic unit, which has relatively uniform drainage and water quality characteristics: Genesis Solar Energy Project, Desert Sunlight Solar Project, SCE Red Bluff Substation, Desert Harvest Solar Project, Palen Solar Project, Athos Renewable Energy Project, Oberon Renewable Energy Project, Eagle Mountain Pumped Storage Project, Easley Renewable Energy Project, and Lycan Solar Project.

Surface Water and Water Quality. Cumulative impacts to hydrology and water quality include the impacts of the Project with those likely to occur from other existing, proposed, and reasonably foreseeable projects, many of which are similar solar power projects. These cumulative projects have the potential to contribute to cumulative hydrologic and water quality impacts in the Chuckwalla Hydrologic Unit. These cumulative projects have the potential to introduce new or exacerbate existing pollutant generation associated with construction, operation, and future decommissioning. These projects could contribute to increased runoff due to increases in impervious surfaces. All cumulative projects are crossed by watercourses that could generate flooding, with similar flooding impacts as described for the Project.

All foreseeable future projects in the Chuckwalla Valley Hydrologic Unit would be subject to similar measures as the Project when obtaining the required permits that implement compliance with state and federal clean water regulations and County floodplain development regulations. As all projects would go through an environmental review process, they would be subject to similar measures as the Project to address potential water quality impacts for the Project. Many of the projects do or would likely avoid major drainages that traverse those sites. Because the cumulative projects are in a similar hydrologic setting and most are similar types of projects, individual project impacts are expected to be reduced to less than

significant through compliance with regulations and mitigation. Accordingly, the Project's incremental contribution to the cumulative effects to water quality caused by other past, present, and probable future projects would be less than significant.

Groundwater. A cumulative groundwater analysis is provided in the WSA (Appendix E), which considers the entire CVGB. Existing, proposed, and reasonably foreseeable projects that were considered in the cumulative groundwater analysis include Desert Sunlight Solar Farm, Palen Solar Project, Desert Harvest Solar Project, Genesis Solar Energy Project, Athos Renewable Energy Project, Oberon Renewable Energy Project, Arica Solar Project, Victory Pass Solar Project, Easley Renewable Energy Project, and Eagle Mountain Pumped Storage Project. Existing domestic and agricultural groundwater use was also included in the analysis. The WSA demonstrates that it is unlikely the CVGB would have a long-term overdraft condition with all cumulative projects combined, except when the Eagle Mountain Pumped Storage Project water demand is included, which would cause the water budget balance to become negative in all water year conditions analyzed (i.e., normal, single dry, and multiple dry). The Eagle Mountain Pumped Storage Project would use more operational water than all other cumulative projects combined. When the Eagle Mountain Pumped Storage Project is excluded from the water budget analysis, it is predicted that there will be a groundwater surplus in a normal year and year one of a multiple dry year condition, and a groundwater deficit in a single dry year and the second and third years of a multiple dry year condition. Although a reduction in groundwater in storage is predicted to occur in a single dry year and the second and third years of a multiple dry year condition, the deficit would be small (≤0.02%) compared to the total volume of groundwater in storage, and the deficit is predicted to be erased during normal and above-normal years.

The WSA also demonstrates that the water demand of the Project would contribute less than 1% of the total groundwater extraction in the CVGB, long-term. Because the Project has the lowest construction and O&M water demand of all the proposed projects, the Project would have a negligible impact on the water budget. The groundwater storage reduction after 20 years of Project pumping and over the life of the Project as a percentage of total groundwater in storage beneath the Project site would be approximately 1% or less. Although construction-related pumping could result in temporary and localized cones of depression, pumping water levels quickly rebound when intensive pumping ceases and O&M water use tends not to have a significant or long-term impact on groundwater levels.

Because the cumulative scenario under normal conditions indicates a potential groundwater deficit, this analysis conservatively concludes that cumulative impacts would be potentially significant. Although cumulative impacts would be potentially significant, the Project's incremental contribution is not considered cumulatively considerable because the cumulative deficit is driven by the proposed Eagle Mountain Pumped Storage Project, which accounts for the majority of groundwater use under the cumulative scenario.

Similar to the Project, many of the other cumulative projects listed above may install or use existing wells on or near each project site, drawing directly from the CVGB. Therefore, as all the cumulative projects listed above would overlap for some period during operation, it is possible that some projects could overlap in construction and/or future decommissioning in timing and groundwater withdrawal could combine such that cumulatively the projects would cause local CVGB groundwater levels to decline. Lowered groundwater levels as a result of cumulative projects pumping could impact pumping rates and capability in other nearby wells, a potentially significant cumulative impact. MM WAT-1 would require the development and implementation of a GMRMP prior to construction of the Project that would result in implementation of measures to mitigate any adverse effects on nearby wells. This measure would reduce the Project's incremental contribution to a less-than-significant level because it would ensure that all

Project-related impacts to local groundwater levels would be addressed through cessation or reduction of pumping, and/or compensation for affected nearby wells. Therefore, the Project would not result in cumulatively considerable impacts related to hydrology and water quality.

3.11.4 Mitigation Measures

The following Mitigation Measure was developed to substantially lessen the potentially significant effects on hydrology and water quality that could result from the construction, operation, maintenance, and decommissioning of the Project.

MM WAT-1 **Groundwater Monitoring, Reporting, and Mitigation Plan.** Prior to the Project's use of water from any well that extracts groundwater from the Chuckwalla Valley Groundwater Basin, the Applicant shall prepare and implement a Groundwater Monitoring, Reporting, and Mitigation Plan (GMRMP) for the Project. The GMRMP shall be prepared by a certified hydrogeologist registered in the State of California and submitted by the Applicant to the County for review and approval prior to the start of Project construction.

The GMRMP shall provide detailed methodology for monitoring groundwater levels and water quality in the Project production well(s) and closest accessible private well(s). Monitoring shall be performed prior to construction to establish pre-construction groundwater levels that can be used as a baseline against which later measurements can be compared, and to establish provisional significance thresholds that shall be used to determine the need for additional monitoring, investigation, and/or mitigation.

Monitoring of groundwater levels and water quality shall be conducted on a quarterly basis during Project construction and a semi-annual basis during Project operations and maintenance for at least the first 5 years of the Project (including the construction period). All Project production wells shall be metered, and total monthly and annual usage in gallons recorded for the life of the Project. Monitoring reports shall be prepared and submitted to the County for review and comment following each monitoring event. The reports shall include at a minimum the following information:

- Tabulated groundwater level, quality, and production data
- Total monthly water use in gallons and acre-feet
- Hydrographs that show groundwater level trends
- Trend analysis of water quality data
- Comparison of monitoring results to baseline conditions
- Identification of any exceedance of provisional significance thresholds

If groundwater monitoring results indicate that Project-related pumping has resulted in a static groundwater level decline of 5 feet or more below the baseline trend, determined by the past 5 years of static groundwater level data, at any of the nearby private monitoring wells, the Project Applicant shall consult with the County to determine what remedial activities are needed, which could include:

- Cessation or reduction of pumping until groundwater levels recover to within 5 feet from the baseline trend

- Compensation for whatever additional equipment is necessary to lower nearby well pumps to levels that can adequately continue pumping
- Compensation to repair or replace wells found to be damaged or inoperable due to lowered groundwater levels
- Compensation for increased energy cost due to Project-related groundwater level drawdown in wells

If groundwater level declines are occurring, pumping by other local users will be evaluated in the monitoring reports and, if possible, differentiated from Project-related pumping. This analysis could include comparing changes in the timing and amounts of groundwater level fluctuations to pre-Project baseline data, production at other locations, and seasonal changes.

3.11.5 References

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Figure 3.11-1 Flood Map

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3.12 Land Use and Planning

This section includes an analysis of the impacts on land use and planning that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning of the proposed project (Project). The analysis in this section describes the applicable regulations, provides information on existing conditions that influence land use and planning, identifies the criteria used for determining the significance of environmental impacts, and describes the Project's potential impacts to land use and planning.

3.12.1 Regulatory Framework

Federal Laws, Regulations, and Policies

Federal Land Policy and Management Act, 1976. As Amended. The United States Congress passed the Federal Land Policy and Management Act (FLPMA) in 1976. Title V, "Rights-of-Way," of the FLPMA establishes public land policy and guidelines for administration; provides for management, protection, development, and enhancement of public lands; and provides the Bureau of Land Management (BLM) authorization to grant rights-of-way (ROWs). 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 the following:

> [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 ROW 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 primary directive guiding all of BLM's decisions under the FLPMA is to put public lands to their highest and best use.

On March 15, 2022, EDFR submitted a Standard Form 299 application for a ROW Grant from BLM to construct, operate, maintain, and decommission the Linear Facility Routes, which are on land under the jurisdiction of BLM.

California Desert Conservation Area Plan, 1980. As Amended. Section 601 of the FLPMA required preparation of a long-range plan for the California Desert Conservation Area (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 10.7 million acres of this total are public lands administered by BLM on behalf of the CDCA.

The CDCA Plan 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.

A consistency analysis, including review of all applicable Conservation and Management Actions, has been done to ensure the Project aligns with the goals and objectives of the CDCA Plan, as amended. This is included in the Plan of Development and reviewed by the BLM. The CDCA Plan identifies Areas of Critical Environmental Concern as special management areas where attention is required to protect important historic, cultural, scenic, biological, or other natural resources. The Project is not located within an Area of Critical Environmental Concern.

Western Solar Plan. BLM issued the Final Programmatic Environmental Impact Statement for Solar Energy Development in Arizona, California, Colorado, Nevada, New Mexico, and Utah in July 2012, and signed the associated Record of Decision on October 12, 2012. The Western Solar Plan was adopted through the Approved Resource Management Plan Amendments/Record of Decision for Solar Energy Development in Six Southwestern States in October 2012.

As part of the Western Solar Plan, BLM identified priority development areas called "solar energy zones" (SEZs) to preserve these sites for future solar energy development. Included in this amendment was the Riverside East SEZ in Riverside County (County). The Linear Facility Routes are in this SEZ. SEZs are "developable" areas for solar power development.

Desert Renewable Energy and Conservation Plan Amendment to the CDCA. The Desert Renewable Energy Conservation Plan (DRECP) is a collaboration between the California Energy Commission, California Department of Fish and Wildlife, BLM, and the U.S. Fish and Wildlife Service. The DRECP is a landscape-level plan that streamlines renewable energy development while conserving unique and valuable desert ecosystems and providing outdoor recreation opportunities. The Record of Decision for the DRECP Land Use Plan Amendment (LUPA) was signed in 2016 and is intended to facilitate the development of utility-scale renewable energy and transmission projects in the Mojave and Colorado deserts in California to reach federal and state energy targets while conserving sensitive species and habitats, as well as cultural, scenic, and social resources. The LUPA applies to nearly 11,000,000 acres of BLM-managed federal lands.

The Linear Facility Routes are located within an area designated as a Development Focus Area (DFA), except for a small portion (approximately 2.5 acres) located within the County ROW for Kaiser Road. DFAs are locations where renewable energy generation is an allowable use, incentivized, and could be streamlined for approval under the DRECP LUPA. The approximately 2.5-acre area within the County ROW where the Project will interconnect with the existing Desert Harvest transmission line is an allowable use under the DRECP that does not require a LUPA. No state or local agency, including Riverside County, has adopted or approved the DRECP. The County recognizes the DRECP under federal law as a land use plan for BLM. It is also a relevant regional plan for purposes of the County's lead agency review of the Project under the California Environmental Quality Act (CEQA), including the DRECP's landscape-level focus on the conservation of, among other things, unique desert ecosystems in the plan area, which includes the Project site.

State Laws, Regulations, and Policies

California Land Conservation Act of 1965 (Williamson Act). The purpose of the Williamson Act is to preserve California's agricultural lands from urbanization. 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 land conservation contract (known as a Williamson Act contract). The Williamson Act program is administered by the California Department of Conservation (DOC), in conjunction with local governments that administer the individual contract arrangements with landowners. Under the Williamson Act, contracts restrict specific parcels of

land to agricultural and open space uses for a minimum of 10 years. 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 (DOC 2023b). Pursuant to the provisions of Government Code Section 51243(b), the contract is binding upon, and inures to the benefit of, all successors in interest of the owner. Additionally, the contract is binding until its expiration and/or nonrenewal, or until a property owner petitions the County Board of Supervisors to grant cancellation and the County Board of Supervisors grants cancellation pursuant to procedures enumerated in Government Code Section 51280 et seq.

California Government Code Section 51238 states that, unless otherwise decided by a local board or council at a noticed public hearing, the erection, construction, alteration, or maintenance of electric and communication facilities (among other types of uses not relevant here), are compatible uses within any Agricultural Preserve.

Local Laws, Regulations, and Policies

Riverside County General Plan. The of Riverside County General Plan was adopted on October 7, 2003. Through a series of resolutions, the Board of Supervisors adopted an update on December 8, 2015. The General Plan consists of a vision statement and the following elements: Land Use, Circulation, Multipurpose Open Space, Safety, Noise, Housing, Air Quality, and Administration. The General Plan sets forth County land use policies and guidance for implementation. The General Plan is augmented by more detailed Area Plans covering the County's territory.

The private lands associated with the Project are designated as Open Space-Rural and Agriculture per the General Plan (Figure 2-4, Riverside County General Plan - Land Use). The Open Space-Rural land use designation is applied to remote, privately owned open space areas with limited access and a lack of public services. Single-family residential uses are permitted at a density of one dwelling unit per 20 acres. The extraction of mineral resources subject to an approved surface mining permit may be permissible.

The land designated as Agriculture 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 as Agriculture generally lack 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 General Plan establishes policies for development and conservation within the entire unincorporated County territory. The General Plan's policy goals that are potentially relevant to land use for the Project are provided below (County of Riverside 2015, 2021a).

Land Use Element

- **Policy LU 2.1.c.** Provide for a broad range of land uses, intensities, and densities 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 General Plan and area plans to ensure compatibility and minimize impacts.

- **Policy LU 8.1.** Accommodate the development of a balance of land uses that maintain and enhance Riverside County's fiscal viability, economic diversity, and environmental integrity.
- **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 General Plan and federal and state regulations such as CEQA, NEPA [National Environmental Policy Act], 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.** 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 17.2**. 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.
- **Policy LU 26.3.** Ensure that development does not adversely impact the open space and rural character of the surrounding area.
- **Policy LU 26.5.** Provide programs and incentives that allow Open Space-Rural areas to maintain and enhance their existing and desired character.

Multipurpose 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.
- **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.
- **Policy OS 11.4.** Encourage site-planning and building design that maximizes solar energy use/potential in future development applications.

Desert Center Area Plan. The Project is located within the Desert Center Area Plan. The Desert Center Area Plan provides customized direction specifically for this portion of the County and guides the evolving character of the agricultural and desert area. The Desert Center Area Plan envisioned little new development for the planning horizon (through 2020), except for infill and/or revitalization of the Eagle Mountain Townsite and contiguous expansion of the Desert Center and Lake Tamarisk communities. It was written in 2010 before widespread development of utility-scale renewable projects and as a result is largely silent on such development (County of Riverside 2021b).

- **Policy DCAP 3.1.** Protect farmland and agricultural resources in Desert Center through adherence to the Agricultural Resources section of the General Plan Multipurpose Open Space Element and the Agriculture section of the General Plan Land Use Element, as well as the provisions of the agriculture land use designation.

- **Policy DCAP 4.1.** When outdoor lighting is used, require the use of fixtures that would minimize effects on the nighttime sky and wildlife habitat areas, except as necessary for security reasons.
- **Policy DCAP 5.2.** Maintain Riverside County's roadway Level of Service standards as described in the Level of Service section of the General Plan Circulation Element.
- **Policy DCAP 8.1.** Protect the scenic highways within the Desert Center Area Plan from change that would diminish the aesthetic value of adjacent properties through adherence to the policies found in the Scenic Corridors sections of the General Plan Land Use, Multipurpose Open Space, and Circulation Elements.
- **Policy DCAP 9.1.** Encourage clustering of development for the preservation of contiguous open space.
- **Policy DCAP 9.2.** Work to limit off-road vehicle use within the Desert Center Area Plan.
- **Policy DCAP 9.3.** Require new development to conform with Desert Tortoise Critical Habitat designation requirements.

Riverside County Ordinance No. 509, Establishing Agricultural Preserves. Agricultural preserves are lands identified for, and devoted to, agricultural and compatible uses and are established through resolutions adopted by the County Board of Supervisors. The purpose of this ordinance is to ensure that incompatible uses are not allowed within established agricultural preserves. It sets forth the powers of the County in establishing and administering agricultural preserves pursuant to the California Land Conservation Act of 1965 (Government Code Section 51200, et seq.). The ordinance also establishes "Uniform Rules" for the agricultural and compatible uses allowed in an agricultural preserve. Land uses not covered in the ordinance are prohibited within agricultural preserves.

Riverside County Ordinance No. 625, the "Right to Farm" Ordinance. The purpose of the Ordinance No. 625 is to reduce the loss of agricultural resources by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance. It was enacted to conserve, protect, and encourage the development, improvement, and continued viability of agricultural land.

Riverside County Land Use Ordinance. Ordinance No. 348.4705 amends Ordinance No. 348 to authorize solar power plants on lots 10 acres or larger, subject to a Conditional Use Permit (CUP) 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 (AP), 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). The private lands associated with the Project are located within lands zoned as A-1-20 Light Agriculture and W-2-10 Controlled Development Areas (Figure 2-5, Riverside County Zoning). Thus, the proposed Project does not require a zone change. The Project would require the following discretionary actions by the County to implement the Project:

- **Conditional Use Permit (CUP 220035)** is proposed for the construction, operation, and decommissioning of the proposed solar facility.
- **Development Agreement (No. 2200018)** is proposed for the construction, operation, and decommissioning of the proposed solar facility.
- **Public Use Permit (PUP 220002)** is proposed for the portions of the generation tie (gen-tie) line that would cross County roads (Osborne Avenue and Kaiser Road).

Resolution No. 84-526, Riverside County Rules and Regulations Governing Agricultural Preserves. These rules and regulations were adopted pursuant to California Government Code Section 51231 to govern

agricultural preserve procedures within the County and to aid in implementation of the Williamson Act. The rules and regulations address procedures for the initiation, establishment, enlargement, disestablishment, and diminishment of agricultural preserves. To protect existing agricultural lands and agricultural preserves within the County, Division VI of these rules requires a "Comprehensive Agricultural Preserve Technical Advisory Committee" (CAPTAC) to review and report on land use proposals and applications related to agricultural preserves and advise the County Board of Supervisors on the administration of agricultural preserves, as well as Williamson Act contract-related matters. In particular, the CAPTAC is charged with reviewing any proposals for the diminishment or disestablishment of an agricultural preserve and providing its recommendations to the Board of Supervisors. Regarding diminishments and disestablishments, the CAPTAC reviews the following findings:

- Whether a notice of nonrenewal has been served pursuant to the Williamson Act, Section 401 of these rules
- Whether the cancellation is likely to result in the removal of adjacent lands from agricultural use
- Whether the proposed alternative use of land is consistent with the provisions of the Riverside County General Plan
- Whether the cancellation will result in discontiguous patterns of urban development
- Whether there is proximate non-contracted land that is both available and suitable for the use for which the contracted land is being proposed
- Whether the development of the contracted land would provide more contiguous patterns of urban development than that of proximate non-contracted land

3.12.2 Environmental Setting

The Project consists of the solar site, which is located on private lands, as well as Linear Facility Routes that are located on BLM-administered land. The Project area is in eastern Riverside County, approximately 3 miles north of Desert Center, approximately 40 miles west of the City of Blythe, and 3.5 miles north of Interstate (I) 10 (refer to Figure 2-1, Project Location). The Project is bounded on the north, east, and west sides by BLM lands and to the south by Belsby Avenue. Melon Street runs along the west side of the Project boundary and Jojoba Street is on the east. Additionally, there is an active aquaculture facility to the west and active agricultural operations to the east of the Project site.

Nearby operating solar projects include the Desert Sunlight Solar Farm, which is approximately 1.5 miles north of the Project; Desert Harvest Solar, which is approximately 0.5 miles north of the Project; and Athos Solar, which is approximately 0.13 miles northeast of the Project.

Nearby solar projects that are permitted/under construction include the Arica Solar Project, which is approximately 3.7 miles southeast of the Project; Oberon I Project, which is approximately 1.8 miles south of the Project; Oberon II Solar Project, which is approximately 1.5 miles south of the Project; and the Victory Pass Solar Project, which is approximately 3.5 miles southeast of the Project. Nearby proposed solar projects include the Easley Renewable Energy Project, which would be directly adjacent to the Project on all sides except to the northeast.

These solar projects have existing or proposed gen-tie lines connecting to the Southern California Edison Red Bluff Substation. Were it to receive final approvals and be constructed, the proposed Eagle Mountain Pumped Storage Project, located north of Desert Center, would interconnect with the Red Bluff Substation as well.

Joshua Tree National Park is approximately 3 miles from the Project's northeastern and western boundaries. Other development in the surrounding area consists of active and fallow agricultural fields, including an aquaculture facility, residences, solar development, and electrical transmission lines. Surrounding areas also include undeveloped desert land that is largely federally owned.

The Linear Facility Routes would traverse BLM-administered public lands within the Riverside East SEZ, and within a DRECP DFA (except for the approximately 2.5-acre area within the County ROW for Kaiser Road that will accommodate the interconnection with the existing Desert Harvest transmission line).

3.12.3 Impact Analysis

Methodology

The potential impacts associated with the Project are evaluated on a qualitative basis through a comparison of the existing land use and the proposed land uses, in consideration of the applicable planning goals identified above. Compliance with the aforementioned policies is illustrated in consistency tables provided in the Environmental Impacts section below. An evaluation of potential land use conflicts that may result from the Project was based on a review of relevant planning documents, including the CDCA Plan and Amendments, and a review of the proposed solar facilities sites and surrounding area. The focus of the land use analysis is on land use conflicts that would result from implementation of the Project. 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.

Criteria for Determining Significance

Section XI of Appendix G to the State CEQA Guidelines addresses typical adverse effects on land use and planning and includes the following threshold questions to evaluate a project's impacts on land use and planning. Would the project:

a) Physically divide an established community?

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

Significance thresholds, set forth in the County's Environmental Assessment Checklist, are derived from Section XI of Appendix G to the State CEQA Guidelines (listed above), and state that the Project would have a significant impact on land use and planning if the Project or any Project-related component would:

a) Physically divide an established community?

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

Environmental Impacts

This section includes an examination of the Project's impacts to land use and planning per the County's Environmental Assessment Checklist and Appendix G of the State CEQA Guidelines identified above.

Land use can be assessed by analyzing current land activities, land ownership, zoning, and consistency with existing land use plans, ordinances, regulations, and policies. As previously stated, the solar site is located entirely on private lands and the Linear Facility Routes are located on BLM-administered public lands.

Threshold a: Would the project physically divide an established community?

NO IMPACT. The Project site is located on approximately 1,192 acres, of which approximately 1,082 acres is located on private lands and approximately 110 acres is located on land administered by the United Bureau of Land Management. The solar site would be located on private lands. The Linear Facility Routes would be located on BLM-administered lands within a Development Focus Area for solar, wind, and geothermal projects as designated by the DRECP. The DRECP incentivizes the development of renewable solar energy facilities within the project area, and as such, the Linear Facility Routes would be consistent with the intended uses of this area. The Project is located on individual parcels that are either undeveloped or previously supported mixed-use agriculture practices.

The closest residences to the Project site include a cluster of three possible residences located 0.4 miles east of the Project site along the west side of State Route (SR) 177. The closest residential area is the Green Acres Mobile Park, located approximately 1 mile to the south of the Project site, on the east side of SR-177. Single family residences in a small neighborhood (Shasta Drive) are located approximately 1.5 miles to the southwest of the Project site. The Project is located approximately 1.28 miles from the community of Lake Tamarisk. The closest census-designated place is Desert Center, California, located approximately 3 miles south of the Project. Accordingly, no people or housing would be displaced by the Project. Therefore, the Project would not physically divide an established community and no impact would occur.

Threshold b: Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

LESS THAN SIGNIFICANT. This impact considers both the use of the land and the existing rights and potential conflicts with the Project.

Project Use of Land. The Project is located on approximately 1,123 acres, of which approximately 1,082 acres is located on private lands and approximately 41 acres is located on land administered by the BLM.

Linear Facility Routes (BLM Lands)

The entirety of the 41-acre area associated with the two Linear Facility Routes is on BLM-administered lands that are located within a DFA for solar, wind, and geothermal projects as designated by the DRECP. The Project is also located within the Riverside East SEZ, which is a DFA under the DRECP. The DFA designation identifies land well-suited for development of renewable energy facilities and associated infrastructure, including gen-tie lines, without requiring a LUPA if a project complies with relevant DRECP Conservation and Management Actions. Although only BLM and no state or local agency (including the County) ultimately adopted the DRECP such that it applies to federal lands only, the DRECP as proposed for adoption included non-federal lands as well. As noted in Section 3.12.1, Regulatory Framework, BLM describes the DRECP as a landscape-level plan that streamlines renewable energy development while conserving unique and valuable desert ecosystems and providing outdoor recreation opportunities. Although it never adopted the DRECP, the County has determined that the DRECP is a "land use plan" relevant to its lead agency review as a tool for identifying the most appropriate lands for solar development within the County. By being located within a DFA, the Project site is appropriate for utility-scale solar development.

The Linear Facility Routes would be consistent with the CDCA Plan, as amended by the DRECP LUPA, and its Conservation and Management Actions for the reasons explained in the Sapphire Linear Facility Routes Plan of Development (EDFR 2023). Because this land is specifically designated for developments such as

the Project, there would be no conflicts with BLM land use, and the Project would not conflict with federal policies, regulations, and goals.

If the Linear Facility Routes are developed on this site, the land could not be used for other use opportunities that would otherwise be available on public lands during the life of the Project. As discussed in Section 3.18, Recreation, BLM open routes are defined as off-highway vehicle routes where access by all types of motorized vehicles is allowed generally without restriction. There are three off-highway vehicle (OHV) routes that are established on BLM-administered lands and continue onto the private lands encompassed by the solar site. These routes include 660535, 660332, and 660546. Approximately 5,690 feet of BLM Route 660535, 5,364 feet of BLM Route 660332, and 12,099 feet of BLM Route 660546 cross the solar site and Linear Facility Routes. BLM Route 660332 intersects Linear Facility Route "A" just before being interrupted by private lands. Approximately 0.5 miles of BLM Route 660546 are collocated along Linear Facility Routes "A" in an east-west orientation.

While OHV routes cannot be officially designated on private land, some routes cross private land and may be used by recreationists via unauthorized travel. The following three BLM Routes cross the Project site (Figure 3.18-2, BLM Open Routes); 660535, 660332, and 660546. Approximately 5,690 feet of BLM Route 660535, 5,364 feet of BLM Route 660322, and approximately 12,099 feet of BLM Route 660546 cross the Project site; however, they are not included in County planning documentation.

However, the Project may prevent the illegal use of the route across private lands. Closure or rerouting of BLM open routes would be considered by BLM in its NEPA document and would be considered an implementation process, consistent with BLM regulations. At the end of the BLM ROW Grant term, if there is no contract extension available, the Linear Facility Routes would be decommissioned. Decommissioning would include removal of all Project-related structures and infrastructure and restoration of all disturbed areas to their pre-construction conditions (refer to Section 2.6, Decommissioning, for additional details). The land would then be available for other multiple uses, as allowed by applicable land use planning documents and regulations at the time of decommissioning.

Solar Site (Private Lands)

The solar site component is located on private lands and is therefore required to be consistent with local land use policies. Table 3.12-1, Consistency with Regional and Local Land Use Plans, Policies, and Regulations, below includes a review of the applicable local land use policies. The solar site component would be expected to be consistent or substantially consistent with the local and regional policies. Additionally, the solar site component would be consistent with the County's policies to promote alternative energy supply sources and provide solar opportunities. As part of the permitting process, the Applicant is coordinating as appropriate with specific County departments, such as the Riverside County Fire Department, that may be impacted by the Project (both the Linear Facility Routes and solar site component) to ensure any impacts are addressed and that the Project does not impact public facilities (refer to Section 3.17, Public Services, regarding impacts to public services and facilities).

The Project would be subject to the Riverside County General Plan, Desert Center Area Plan, and the County Ordinances. Table 3.12-1 describes how the Project would be consistent with applicable local land use plans, policies, or regulations.

Table 3.12-1. Consistency with Regional and Local Land Use Plans, Policies, and Regulations

Policy/Regulations/ Goals	Description	Consistency Analysis
	Riverside County General Plan: Land Use Element	
LU 2.1.c	Provide for a broad range of land uses, intensities, and densities, including a range of residential, commercial, business, industry, open space, recreation, and public facility uses.	**Consistent.** The Project would not limit the range of land uses.
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.	**Consistent.** The Project would not result in a permanent increase in population or associated infrastructure or services. Roads and other infrastructure that must be improved to accommodate the Project will be improved as needed by the Applicant.
LU 7.1	Require land uses to develop in accordance with the General Plan and area plans to ensure compatibility and minimize impacts.	**Consistent.** The Project would be consistent with the Riverside County General Plan and Desert Center Area Plan.
LU 8.1	Accommodate the development of a balance of land uses that maintain and enhance Riverside County's fiscal viability, economic diversity, and environmental integrity.	**Consistent.** The Project would help maintain the County's fiscal viability by increasing the revenue of the County.
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 within an area with important natural resources.
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 [California Environmental Quality Act], NEPA [National Environmental Policy Act], the Clean Air Act, and the Clean Water Act.	**Consistent.** The Project would comply with CEQA, NEPA, and other federal and local resource conservation laws and regulations. Additionally, by complying with the Conservation and Management Actions from the BLM Desert Renewable Energy Conservation Plan Land Use Plan Amendment, they would protect environmental resources on the Project site.
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 and would coordinate with the County for any additional public needs.
LU 14.1	Preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public.	**Consistent.** The Project would be located on disturbed former agricultural and undeveloped land near existing solar projects and existing electrical facilities. As further evaluated in Section 3.2, Aesthetics, of this environmental impact report (EIR), construction, operation, and decommissioning of the Project would not significantly impact scenic vistas or scenic features that are available to the traveling public from roads including Interstate (I) 10 and State Route 177. Refer to Section 3.2 of this EIR for more information.

Table 3.12-1. Consistency with Regional and Local Land Use Plans, Policies, and Regulations

Policy/Regulations/ Goals	Description	Consistency Analysis
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.** Views to Project components (primarily solar panels) would be available from County-eligible scenic highway I-10; however, the Linear Facility Routes would be indistinct in views from the interstate due to distance and the generally thin form of poles and line. As new poles and line would not be clearly visible and would not be spatially dominant in views from I-10, undergrounding the lines would have nominal effects on views from I-10. Refer to Section 3.2 of this EIR for more information.
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, solar power plants in the County of Riverside.	**Consistent.** The Project is a renewable energy project and is being reviewed under CEQA and NEPA to reduce the environmental impacts of the Project.
LU 26.3	Ensure that development does not adversely impact the open space and rural character of the surrounding area.	**Consistent.** The Project's solar site component is located on disturbed former agricultural and undeveloped land near existing solar projects and existing electrical facilities. The Project is identified as appropriate for solar in a landscape-scale planning document.
LU 26.5	Provide programs and incentives that allow Open Space-Rural areas to maintain and enhance their existing and desired character.	**Consistent.** The Project's solar site component is located on private lands consisting of disturbed former agricultural and undeveloped land near existing solar projects and existing electrical facilities. The County allows for renewable energy in this zoning designation and in the governing landscape-scale planning document. The Linear Facility Routes are located on BLM land identified as appropriate for renewable energy within the Riverside East SEZ, and within a DRECP DFA. The solar site component does not contain dedicated public open space for public use. Up to 41 acres of federal land will be impacted by the Linear Facility Routes; however, said uses are located in an SEZ and DFA. A BLM issued ROW is time limited, and requires restorations at the end of the Project life, therefore, open space areas will be able to maintain their character in the future.
Riverside County General Plan: Multipurpose Open Space Element		
OS 11.2	Support and encourage voluntary efforts to provide active and passive solar access opportunities in new developments.	**Consistent.** The Project would be a renewable energy solar project.

Table 3.12-1. Consistency with Regional and Local Land Use Plans, Policies, and Regulations

Policy/Regulations/ Goals	Description	Consistency Analysis
OS 11.3	Permit and encourage the use of passive solar devices and other state-of-the-art energy resources.	**Consistent.** The Project would be a renewable energy solar project that would use the most current and technically feasible solar equipment.
OS 11.4	Encourage site-planning and building design that maximizes solar energy use/potential in future development applications.	**Consistent.** The Project facilities would be consistent with this policy.
	Riverside County: Desert Center Area Plan	
Desert Center Area Plan (DCAP) 3.1	Protect farmland and agricultural resources in Desert Center through adherence to the Agricultural Resources section of the General Plan Multipurpose Open Space Element and the Agriculture section of the General Plan Land Use Element, as well as the provisions of the agriculture land use designation.	**Consistent.** While the Project's solar component would be located on land available for agricultural use, the Project site does not currently support active agricultural activity. Private lands within the Project site formerly supported mixed-use agricultural practices; however, agricultural operations have not occurred on site for at least 14 years. The Project would not convert any land designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (i.e., Farmland Mapping and Monitoring Program-designated Farmland) as it is not mapped by the Farmland Mapping and Monitoring Program. At the conclusion of the Project, the land could be returned to agricultural use. See Section 3.3, Agriculture and Forest Resources. As mentioned above, the Project's solar component has not been used for irrigated agriculture for the past 14 years. Therefore, impacts related to converting Unique Farmland, or Farmland of Statewide Importance to nonagricultural use would be less than significant. Therefore, the Project would be consistent with this goal.
DCAP 4.1	When outdoor lighting is used, require the use of fixtures that would minimize effects on the nighttime sky and wildlife habitat areas, except as necessary for security reasons.	**Consistent.** Aesthetic impacts are evaluated in Section 3.2, Aesthetics, of this EIR. This EIR serves to comply with this policy and reduce potential impacts through implementation of mitigation measures. Security lights around the entrance/driveway, parking area, substation, battery energy storage system enclosure area, and operations and maintenance building substation would be motion-sensitive and directional. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties.
DCAP 5.2	Maintain Riverside County's roadway Level of Service standards as described in the Level of Service section of the General Plan Circulation Element.	**Consistent.** With incorporation of MM TRAF-1 in Section 3.19, Transportation, the Project is not anticipated to impact the County roadways.

Table 3.12-1. Consistency with Regional and Local Land Use Plans, Policies, and Regulations

Policy/Regulations/ Goals	Description	Consistency Analysis
DCAP 8.1	Protect the scenic highways within the Desert Center Area Plan from change that would diminish the aesthetic value of adjacent properties through adherence to the policies found in the Scenic Corridors sections of the General Plan Land Use, Multipurpose Open Space, and Circulation Elements.	**Consistent**. Neither SR-177 nor I-10 are state Scenic Highways (I-10 is a County Eligible Scenic (County of Riverside 2020)). The nearest facility of the California Scenic Highway System, SR-62 (an eligible state Scenic Highway), is located approximately 20 miles to the north of the Project site. No views of the Project site are available from a state Scenic Highway. Refer to Section 3.2 of this EIR for more information.
DCAP 9.1	Encourage clustering of development for the preservation of contiguous open space.	**Consistent.** The Project would be located near an existing solar project and several proposed or approved solar projects.
DCAP 9.2	Work to limit off-road vehicle use within the Desert Center Area Plan.	**Consistent.** The Project would not encourage off-road vehicle use.
DCAP 9.3	Require new development to conform with Desert Tortoise Critical Habitat designation requirements.	**Consistent.** The Project would not be located in Desert Tortoise Critical Habitat.
	Riverside County Zoning Ordinance	
Section 15.1.d. (32) Uses Permitted in W-2 Zone (Controlled Development Areas)	This zone permits a solar power plant on a lot 10 acres or larger upon issuance of a Conditional Use Permit (CUP).	**Consistent.** With approval of the 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 the CUP, the Project would be an allowable use under this zone.

Riverside County General Plan

The Project would be a conditionally permitted use within the A-1-20 Light Agriculture and W-2-10 Controlled Development Areas (Figure 2-5) on approval of a CUP and completion of an environmental review. Table 3.12-1 describes how the Project would be consistent with the Land Use and Multipurpose Open Space Elements. The Applicant is also seeking a minimum 39-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 cross County roads (Osborne Road and Kaiser Road).

The existing and planned land uses surrounding the Project are similar in nature to those identified for the Project. The parcels closest to the solar facility are zoned N-A, W-2-10, A-1-20 (Light Agriculture [20-acre minimum]), both of which allows solar power development with a CUP on a lot 10 acres or larger.

Although the Project is consistent with the surrounding zoning and land use, nearby residences expressed concerns regarding impacts to their lifestyle from noise, traffic and access, views of the open desert, night lighting, water usage and dust. Noise is address in Section 3.14 (Noise), traffic and access are addressed in Section 3.19 (Transportation), views of the open desert and night lighting are addressed in Section 3.2 (Aesthetics), water usage is addressed in Section 3.21 (Utilities and Service Systems) and dust is addressed

in Section 3.4 (Air Quality). Those sections include mitigation to reduce the concerns expressed by the public, including construction noise, traffic plans, aesthetics, dust abatement, and public notification.

Desert Center Area Plan and Riverside County Zoning Ordinance

The Project would be a conditionally permitted use under the W-2-10 and A-1-20 zones. The Project would not conflict with the Desert Center Area Plan and Riverside County Zoning Ordinance (see Table 3.12-1).

Federal Policies, Regulations, and Goals

The solar facility would be located entirely on private land so it would not be subject to the federal policies, regulations, and goals. Nevertheless, the solar facility is located adjacent to BLM-administered land designated as DFA in the DRECP, areas where renewable energy generation is an allowable use, incentivized, and could be streamlined under the DRECP LUPA. The Solar Facility Project would not conflict with this designation.

The Linear Facility Routes are within BLM land designated as a DFA in the DRECP LUPA to the CDCA Plan. The DFA designation allows for the development of renewable energy facilities and associated infrastructure, including gen-tie lines, without requiring a LUPA. The Linear Facility Routes would all be consistent with the DRECP LUPA and CDCA Plan. The Linear Facility Routes would not conflict with federal policies, regulations, and goals.

Existing Rights and Potential Conflicts. Grants, including the Project's requested ROW Grant, are subject to the valid existing rights of others, including rights retained by the United States. Other valid existing rights pertain to collocated transmission lines, which do not conflict with the Project, as the shared transmission line ROWs would be managed to meet all applicable regulations. If there are other applications in the Project area, BLM retains the right to require common use of rights-of-way for compatible uses, including facilities or access routes and the right to change grants to protect public health or safety of the environment.

BLM retains the right to issue other compatible ROWs within the proposed Linear Facility Routes. If subsequent ROWs are granted within the site for the proposed ROW, BLM would be required to notify those with valid existing rights, per the Code of Federal Regulations Section 2807.14. Grant holders would have an opportunity to respond in writing as to how the actions would impact their existing operations/rights. BLM would consider the potential effects prior to granting subsequent ROWs. There are multiple active, approved, and proposed projects in the area of the solar site component and Linear Facility Routes, as shown in Tables 3.1-1 and 3.1-2, on Figure 2-3, Proposed Project and Other Solar Projects, and in the cumulative impact analyses section within each resource section in Chapter 3, Environmental Analysis. These include existing and proposed solar projects, and the approved Eagle Mountain Pumped Storage Project.

Prior to ROW Grant approval, the Applicant is required to coordinate with any legally existing ROWs or conflicting uses to ensure the Project does not impact these uses, including bearing the cost of this coordination. This includes coordinating the construction of the Linear Facility Routes with construction of other approved projects. The Applicant has started this coordination process, in consultation with BLM, by submitting documentation to the various existing and planned land users to ensure the Linear Facility Routes does not infringe on their existing rights. This coordination is ongoing, and the developers are having continued discussions as well as working with BLM to resolve the potential conflicts.

The Project would not conflict with applicable land use plans, policies, and regulations, and would not result in an alteration of the present or planned land use of the area. The Project is not inconsistent or incompatible

with the site's existing, proposed, or surrounding land uses. Therefore, the Project would not indirectly cause a significant environmental impact due to conflicts with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. As a result, the Project would result in less-than-significant impacts related to the use of the land and other conflicts.

Cumulative Impacts

Geographic Scope. The cumulative scope for land use would include eastern Riverside County. This is because the uses and users of the land from Desert Center to Blythe are similar and this region is often considered as a whole for land use planning. Past, present, and reasonably foreseeable future actions making up the cumulative scenario are identified in Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario.

Implementation of the Project and other past, present, and reasonably foreseeable future projects, primarily solar development, would preclude the development of other future uses on the Project site over the lifetime of the Project and could affect land use opportunities on lands within the eastern Riverside County portion of the Desert Center Area Plan. Potential effects could include access conflicts, or conflicts with various gen-tie line routes connecting to the Red Bluff Substation.

Cumulative Impacts. As discussed under Threshold "a," the Project would not physically divide an established community because the Project is located on individual parcels that are either undeveloped or previously supported mixed-use agriculture practices. The closest community to the Project site is the community of Lake Tamarisk that is located approximately 1.28 miles away. Therefore, the Project would not contribute to a cumulatively significant impact with respect to physically dividing an established community.

As discussed under Threshold "b," the Project site is zoned as A-1-20 Agricultural Zone and W-2-10 Controlled Development Areas. However, in accordance with County Ordinance No. 348, solar power plants on lots 10 acres or larger are permitted through a CUP within the A-1-20 Light Agricultural and W-2-10 Controlled Development Areas zoning designations (County of Riverside 2021a). Many solar and renewable energy projects have been proposed, approved, or constructed in the Project area, both on private and public land (refer to Tables 3.1-1 and 3.1-2 in Chapter 3, Section 3.1.2).

The 41-acre area associated with the two Linear Facility Routes on BLM-administered lands is located within a DFA for solar, wind, and geothermal projects as designated by the DRECP or within an existing transmission line ROW. The Project is also located within the Riverside East SEZ. The DFA designation allows for development of renewable energy facilities and associated infrastructure, including gen-tie lines, without requiring a LUPA if a project complies with relevant DRECP Conservation and Management Actions.

Some cumulative projects may block OHV routes or preclude other types of uses (e.g., agriculture, mining, grazing). However, with appropriate permitting, the Project would minimize or avoid impacts to land use. Similarly, cumulative projects would have to obtain the appropriate permits for development. During the permitting of the cumulative projects, the authority having jurisdiction (AHJ) would consider other types of uses of the project areas to ensure there would be no direct conflicts of land use and that appropriate access to nearby recreational areas would be continued. As part of its planning process, the BLM has set aside millions of acres for uses other than renewable development (e.g., recreation, mining, conservation) and has directed renewable development to DFAs. While the County's Desert Center Area Plan did not anticipate the potential for multiple solar projects in the area, the County has approved nearby solar projects (Athos and Palen) and has shown that these projects do not conflict with the County plans (refer to Table 3.12-1). Because each individual project must undergo this type of review and because the agencies have identified Desert Center as an area where renewable energy is acceptable, the Project, in

conjunction with other past, present, and probable future projects, would not result in a cumulatively considerable or significant land use impact. Therefore, the Project would not result in cumulatively considerable impacts relative to land use and planning.

3.12.4 Mitigation Measures

No mitigation would be required.

3.12.5 References

County of Riverside. 2015. "Multipurpose Open Space Element." Chapter 5 in *Riverside County General Plan*. Revised December 8, 2015. Accessed October 2023. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-general-Plan-2017-elements-OCT17-Ch05-MOSE-120815.pdf.

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EDFR (EDF Renewables Development). 2023. *Sapphire Solar Facility Linear Facility Routes, CACA-105858937, Plan of Development*. December 2023. Accessed January 2024. https://eplanning.blm.gov/public_projects/2030262/200601529/20101555/251001555/0.%20Plan%20of%20Development%20Sapphire%20CACA105858937.pdf.

Figure 3.12-1 Public Easement Vacations

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3.13 Mineral Resources

This section includes an analysis of the impacts on mineral resources that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning the proposed project (Project). The analysis in this section describes the applicable regulations, presents an overview of existing conditions, identifies the criteria used for determining the significance of environmental impacts, and describes the Project's potential impacts to mineral resources.

3.13.1 Regulatory Framework

Federal Laws, Regulations, and Policies

The Bureau of Land Management (BLM) manages the federal lands that fall under their jurisdiction in accordance with the California Desert Conservation Area (CDCA) Plan, as amended. With respect to mineral resources, the CDCA Plan aims to maintain the availability of mineral resources on public lands for exploration and development. The Desert Renewable Energy Conservation Plan (DRECP) amended the California Desert Conservation Plan with a focus on renewable energy and conservation. With regards to minerals, the DRECP does not amend the CDCA Plan goals; it adds the goal to support the national need for a reliable and sustainable domestic mineral and energy supply and to support responsible mining and energy development operations necessary for California's infrastructure, commerce, and economic well-being.

State Laws, Regulations, and Policies

Surface Mining and Reclamation Act: California Public Resources Code Sections 2710 et seq.

The Surface Mining and Reclamation Act of 1975 (SMARA) is the primary regulator of onshore surface mining in the State of California, which is administered by the Division of Mine Reclamation, one of the divisions of the California Department of Conservation (DOC). It delegates specific regulatory authority to local jurisdictions. The act requires the State Geologist (California Geological Survey [CGS]) to identify all mineral deposits within the state and to classify them as: (1) containing little or no mineral deposits; (2) significant deposits; or (3) deposits identified, but further evaluation is needed (DOC 2023). Lands where such deposits are identified are designated Mineral Resource Zone (MRZ) 1, 2, 3, or 4, respectively, as shown below in Table 3.13-1, Mineral Resources Zones.

Local jurisdictions are required to enact specific procedures to guide mineral conservation and extraction at particular sites and to incorporate mineral resource management policies into their general plans. A particular concern of state legislators in enacting SMARA was the premature loss of minerals and protection of sites threatened by development practices that might preclude future mineral extraction.

Table 3.13-1. Mineral Resource Zones

MRZ-1	Areas where the available geologic information indicates no significant mineral deposits or minimal likelihood of significant mineral deposits.
MRZ-2a	Area where the available geologic information indicates that there are significant mineral deposits.
MRZ-2b	Areas where the available geologic information indicates that there is a likelihood of significant mineral deposits.
MRZ-3a	Areas where the available geologic information indicates that mineral deposits are likely to exist, however, the significance of the deposits is undetermined.
MRZ-4	Areas where there is not enough information available to determine the presence or absence of mineral deposits.

Source: County of Riverside 2015a.

Nonfuel mineral resources that are covered by SMARA include metals such as gold, silver, iron, and copper; industrial metals such as boron compounds, rare-earth elements, clays, limestone, gypsum, salt, and dimension stone; and construction aggregate including sand, gravel, and crushed stone. Urban development generally results in a demand for minerals, especially construction aggregate.

Local Laws, Regulations, and Policies

Riverside County General Plan

Mineral extraction is an important component of Riverside County's (County) economy.

The Multipurpose Open Space Element of the Riverside County General Plan (County of Riverside 2015b) contains goals and policies regarding mineral resource within the County. However, they are not applicable to the Project site due to its location and the MRZ classification of the Project site (MRZ-4), as described in detail below in Section 3.13.2, Environmental Setting.

Desert Center Area Plan

The Desert Center Area Plan (County of Riverside 2015c) does not state any additional goals and policies related to mineral resources.

3.13.2 Environmental Setting

Mineral Resource Zones

The Riverside County General Plan provides the classification of non-renewable mineral resources within the County in accordance with SMARA requirements. According to mapping provided in the Multipurpose Open Space Element of the General Plan, the Project site is located in an area designated as MRZ-4 (Figure 3.13-1, Mineral Resource Zones), which is identified as an area of no known mineral occurrences and where geologic information does not rule out either the presence or absence of industrial mineral resources (County of Riverside 2015b). The closest MRZ-2 zone to the Project site is located approximately 7.8 miles to the northwest. The closest MRZ-3 zone is located 4.9 miles to the south (Figure 3.13-1). In addition, there are no active mines on the Project site; the closest mine would be the Kaiser Eagle Mountain located approximately 13 miles northwest of the Project site. Several prospect mines[1] are located approximately 3.4 miles west of the Project site (DOC 2021) (Figure 3.13-1).

As a rural and sparsely developed area, the Project site is not located within an established P-C Region and the closest aggregate production areas are located in the vicinity of Blythe, California, which is located approximately 40 miles east of the Project site (CGS 2018).

3.13.3 Impact Analysis

Methodology

This section considers the potential impact to mineral resources based on the identified MRZ zones and California Department of Conservation resources for the identification of known mineral resource areas. In addition, in consideration of the proposed location of the Linear Facility Routes, on federal public lands administered by the BLM, the analysis considers applicable plans and policies of the BLM, namely the CDCA

[1] A prospect mine is a field exploration for the presence of economically viable minerals that can occur as trenching by a backhoe or bulldozer, or through the drilling of probe holes and collecting core samples.

Plan and DRECP. The methodology used to evaluate potential mineral resources impacts includes the following: (1) evaluation of existing mineral resources and the reviewed resources from the DOC and CGS, aerial photographs, and topographical maps to identify surrounding land uses near the Project site; (2) determination of whether the General Plan has determined any applicable mineral designations; and (3) determining whether the Project's contribution to the future development would cause potential impacts to mineral resources. Using the aforementioned resources and professional judgment, impacts were analyzed according to California Environmental Quality Act (CEQA) significance criteria described below.

Criteria for Determining Significance

Section XII of Appendix G to the CEQA Guidelines addresses typical adverse effects to mineral resources and includes the following threshold questions to evaluate a project's impacts resulting to mineral resources. Would the Project:

a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the State?

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Significance thresholds are set forth in the County's Environmental Assessment Checklist, are derived from Section XII of Appendix G to the State CEQA Guidelines (listed above), and state that the Project would have a significant impact on mineral resources if the Project or any Project-related component would:

a) Result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

c) Potentially expose people or property to hazards from proposed, existing, or abandoned quarries or mines.

Environmental Impacts

This section includes an examination of the Project's mineral resource impacts per the County's Environmental Assessment Checklist and Appendix G to the State CEQA Guidelines identified above.

Threshold a: Would the Project result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State?

LESS THAN SIGNIFICANT. As described in Section 3.13.2 above, the Project site is located in an area that currently does not contain any known mineral resources. The Project site is located within an MRZ-4 zone and no mining or production of aggregate materials is occurring on or in the vicinity of the site (County of Riverside 2015b; CGS 2018). The proposed Linear Facility Routes are also located within the MRZ-4 zone. As previously stated, MRZ-4 is defined as an area where there is not enough information available to determine the presence or absence of mineral deposits. There are no known areas with mineral resources within the Project vicinity (DOC 2022). The closest MRZ-2 zone to the Project site is located approximately 7.8 miles to the northwest. The closest MRZ-3 zone is located 4.9 miles to the south. There are several former prospect mines located 3.4 miles to the west. In addition, as noted above, one of the goals of the DRECP is to support the national need for a reliable and sustainable domestic mineral and energy supply and to support responsible mining and energy development operations necessary for California's infrastructure, commerce, and economic well-being. Because the Linear Facility Routes are located in an area that does not contain known mineral resources and no mining is occurring within or near the routes,

the Linear Facility Routes would not conflict with the DRECP and would not result in the loss of availability of a known mineral resource zone on BLM lands that are intersected by the routes.

Therefore, due to the lack of any known significant mineral resources within the Project site (including the Linear Facility Route options) that would be of value to the region and the residents of the state, and due to the distance between the Project site and any known mineral resources, the Project is not expected to result in the loss of availability of a known mineral resource. Therefore, the Project would not result in the loss of availability of a known mineral resource and the potential impact to future mineral resources would be less than significant.

Threshold b: Would the Project 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?

NO IMPACT. As described in Threshold "a" above, the Project site is designated as MRZ-4. The Project site is not designated as a mineral resource recovery site by the County's General Plan, the Desert Center Areas Plan, and there are no other land use plans that identify the site for mineral resources (DOC 2022; County of Riverside 2015b).

There are no known mineral resources within the Project vicinity and the Project site is not designated as a mineral resource zone (DOC 2022; CGS 2018).

Therefore, the Project would not result in a loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan and no impact would occur.

Threshold c: Would the Project potentially expose people or property to hazards from proposed, existing, or abandoned quarries or mines?

NO IMPACT. As described in Thresholds "a" and "b" above, the Project is not on or near any known mineral resources. In addition, the Project site is not near a state-classified, designated MRZ area of known mineral resources, nor are there existing surface or dormant mining activities in the vicinity of the site (CalGEM 2023; CGS 2018). According to the DOC, there are no areas directly adjacent to the Project site that contain proposed, existing, or abandoned mines or quarries. In addition, the closest active mine is approximately 13 miles northwest of the Project site and the prospect mines located 3.4 miles away do not represent a known mineral resource (DOC 2021). Therefore, the construction, operation, and decommissioning of the Project would not impact any ongoing mining or expose people or property to hazards from proposed, existing, or abandoned quarries or mine, and no impact would occur.

Cumulative Impacts

Geographic Scope. Mineral resource cumulative impacts include the Project's impacts and those likely to occur as a result of other existing, proposed, and reasonably foreseeable projects (refer to Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario). The geographic area for evaluation of potential impacts to mineral resources is Riverside County. This geographic area was selected as mineral resources, especially when it concerns aggregate resources, are typically assessed on a County-wide basis.

Cumulative Impacts. As discussed in Threshold "a" above, the Project site is designated as MRZ-4 (an area where there is not enough information available to determine the presence or absence of mineral deposits) (DOC 2022; CGS 2018). As such, the Project has no potential to result in cumulatively considerable impacts due to the loss of availability of a known mineral resource that would be of value to the region or residents of the state. No cumulatively considerable or significant impacts would occur.

As discussed under Threshold "b," the Project site is not designated as a mineral resource recovery site by the County's General Plan and there are no other land use plans that identify the site for mineral resources. As such, the Project has no potential to result in cumulatively considerable impacts due to 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. No cumulatively considerable or significant impacts would occur.

As discussed under Threshold "c," the Project site is not near a state-classified, designated area, or an existing surface or dormant mine (CalGEM 2023). There are no known proposed, existing, or abandoned quarries or mines in the Project vicinity. The closest open mine is approximately 13 miles southwest of the Project site. As such, the Project has no potential to expose people or property to hazards from proposed, existing, or abandoned quarries or mines, and no cumulatively considerable or significant impacts would occur.

3.13.4 Mitigation Measures

No mitigation would be required.

3.13.5 References

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Figure 3.13-1 Mineral Resource Zones

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3.14 Noise

This section includes an analysis of noise and vibration impacts that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning the proposed project (Project). The analysis in this section describes the applicable regulations, provides information on existing noise conditions in and surrounding the Project site, provides background and terminology used in the assessment of noise and vibration, identifies the criteria used for determining the significance of environmental impacts, describes the Project's potential impacts related to noise and vibration, and lists Mitigation Measures (MMs) that would be incorporated into the Project to avoid and/or substantially lessen to the extent feasible potentially significant impacts. This section relies on the Sapphire Solar Project Riverside County Noise Technical Report (Appendix Q), to which the reader is referred for more information.

3.14.1 Regulatory Framework

Federal Laws, Regulations, and Policies

Noise Control Act

The Noise Control Act of 1972 and its subsequent amendments in the Quiet Communities Act of 1978 (42 USC 4901 et seq.) delegate authority to the states to regulate environmental noise and direct government agencies to ensure compliance with local community noise statutes and regulations.

U.S. Environmental Protection Agency, Environmental Noise Levels

The U.S. Environmental Protection Agency (EPA) provided guidance on environmental noise levels in Information on Levels of Environmental Noise Requisite to Protect Health and Welfare with an Adequate Margin of Safety (EPA 1974), commonly referenced as the "Levels Document," that establishes an L_{dn} of 55 dBA as the requisite level, with an adequate margin of safety, for areas of outdoor uses, including residences and recreation areas. The Levels Document does not constitute EPA regulations or standards but identifies safe levels of environmental noise exposure without consideration of technical or economic feasibility for achieving these levels or other potentially relevant considerations.

Federal Aviation Administration Standards

Enforced by the Federal Aviation Administration (FAA), Code of Federal Regulations Title 14, Part 150, prescribes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. Title 14 also identifies those land uses that are normally compatible with various levels of exposure to noise by individuals. FAA has determined that interior sound levels up to 45 A-weighted decibels (dBA) day/night average sound level (L_{dn}) (or Community Noise Equivalent Level [CNEL]) are acceptable within residential buildings. FAA also considers residential land uses to be compatible with exterior noise levels at or less than 65 dBA L_{dn} (or CNEL).

Federal Transit Administration

In its Transit Noise and Vibration Impact Assessment guidance manual, the Federal Transit Administration (FTA) recommends a daytime construction noise level threshold of 80 dBA L_{eq} over an 8-hour period when detailed construction noise assessments are performed to evaluate potential impacts to community residences surrounding a project (FTA 2018). FTA also recommends using a construction noise threshold of 75 dBA L_{dn} averaged over 30 days for residences exposed to construction noise lasting 30 days or longer.

Although this FTA guidance is not a regulation, it can serve as a quantified standard in the absence of such limits at the state and local jurisdictional levels.

National Park Service

The National Park Service (NPS) Director's Order #47: Soundscape Preservation and Management is the primary internal noise management policy guidance for NPS managers. Building on the NPS Management Policies, this order directs park managers to (1) measure baseline acoustic conditions, (2) determine which existing or proposed human-made sounds are consistent with park purposes, (3) set acoustic management goals and objectives based on these purposes, and (4) determine which noise sources are impacting the park and need to be addressed by management. NPS will take action to prevent or minimize all noise that, through frequency, magnitude, or duration, adversely affects the natural soundscape or other park resources or values, or that exceeds levels that have been identified as being acceptable to, or appropriate for, visitor uses at the sites being monitored. At this time, no specific sound level limits have been identified for Joshua Tree National Park (NPS 2021). The closest boundaries of Joshua Tree National Park to the Project site are at distances of approximately 3 miles northeast and approximately 4.5 miles west.

U.S. Department of Housing and Urban Development

The U.S. Department of Housing and Urban Development (HUD) noise program is established in the noise regulation (24 CFR 51B). The maximum normally acceptable exterior noise exposure level is 65 dBA CNEL for residences that are funded by HUD or that participate in any HUD subsidy programs. Interior noise levels in residences must not exceed 45 dBA CNEL.

Occupational Safety and Health Administration, Occupational Noise Exposure

The Occupational Safety and Health Administration, Occupational Noise Exposure; Hearing Conservation Amendment (Federal Register 48 [46], 9738–9785, 1983), stipulates that protection against the effects of noise exposure shall be provided for employees when sound levels exceed 90 dBA over an 8-hour exposure period. Protection shall consist of feasible administrative or engineering controls. If such controls fail to reduce sound levels to within acceptable levels, personal protective equipment shall be provided and used to reduce exposure of the employee. Additionally, a Hearing Conservation Program must be instituted by the employers whenever employee noise exposure equals or exceeds the action level of an 8-hour time-weighted average sound level of 85 dBA $L_{eq(8)}$. The Hearing Conservation Program requirements consist of periodic area and personal noise monitoring, performance and evaluation of audiograms, provision of hearing protection, annual employee training, and record keeping.

State Laws, Regulations, and Policies

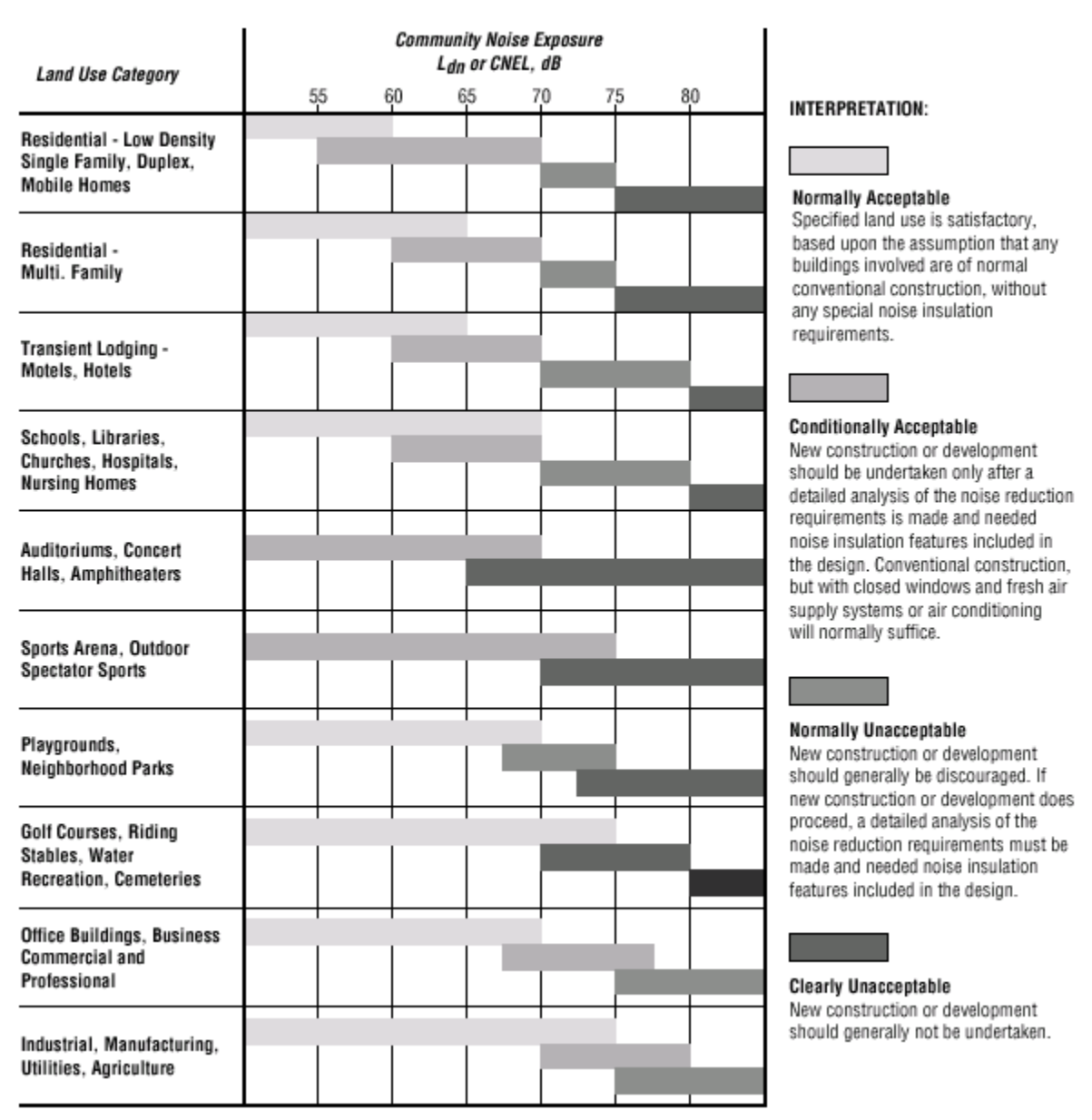
California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, declares that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also identifies a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

California Health and Human Services Agency

The California Health and Human Services Agency has developed guidelines of community noise acceptability for use by local agencies, which have been published by the Governor's Office of Planning and Research (OPR 2003) as the Land Use Compatibility for Community Noise Environments Matrix, provided herein.

Land Use Compatibility for Community Noise Environments Matrix



Source: OPR 2003.

California Occupational Safety and Health Administration

To protect workers from excessive on-site noise levels, the Occupational Safety and Health Act of 1970 sets on-site occupational noise exposure levels, which are regulated in California via the California Occupational Safety and Health Administration. The maximum time-weighted average noise exposure level of workers is 90 dBA over an 8-hour work shift (29 CFR Section 1910.95).

California Department of Transportation Vibration Standards

The California Department of Transportation (Caltrans) conducted extensive research on human annoyance and damage to structures caused by vibration from short-term construction activities and from long-term highway operations and has published criteria for vibration management (Caltrans 2020a). These criteria established by Caltrans are commonly used to assess vibration impacts from all types of projects and activities. Caltrans uses a threshold of 0.2 inches per second (in/sec) peak particle velocity (PPV) for annoyance to persons, where a continuous vibration source is involved; for transient sources (represented by construction activities), Caltrans uses a threshold of 0.24 in/sec PPV (which equates to a distinctly perceptible level). For groundborne noise, Caltrans uses a daytime threshold of 78 vibration decibels (VdB) for residential occupants. For commercial buildings constructed of concrete and steel, Caltrans identifies a damage threshold of 0.5 in/sec PPV. For residential structures employing concrete foundation and wood frame construction, Caltrans identifies a conservative damage threshold vibration level standard of 0.3 in/sec PPV (Caltrans 2020a).

Local Laws, Regulations, and Policies

Riverside County General Plan Noise Element

Land Use Compatibility. The Riverside County General Plan Noise Element (County of Riverside 2015) provides the guidelines on Land Use Compatibility for Community Noise Exposure, which are used to evaluate potential noise impacts and to set the criteria for environmental impact findings and conditions for project approval. Land use compatibility defines the acceptability of a land use in a specified noise environment. The land use compatibility criteria adopted by Riverside County (County) as part of the Noise Element of its General Plan appear in Table 3.14-1.

Table 3.14-1. County of Riverside Land Use Compatibility Standards

	CNEL or L_{dn} Noise Level			
Land Use	**Normally Acceptable**	**Conditionally Acceptable**	**Normally Unacceptable**	**Clearly Unacceptable**
Residential – Low-density (single-family, duplex, mobile homes)	Up to 60 dBA	55–70 dBA	70–75 dBA	Over 75 dBA
Residential – Multiple-family	Up to 65 dBA	60–70 dBA	70–75 dBA	Over 75 dBA
Transient lodging, motels, hotels	Up to 65 dBA	60–70 dBA	70–80 dBA	Over 80 dBA
Schools, libraries, churches, hospitals, nursing homes	Up to 70 dBA	60–70 dBA	70–80 dBA	Over 80 dBA
Auditoriums, concert halls, amphitheaters	Category not used	Up to 70 dBA	Over 65 dBA	Category not used
Sports arenas, outdoor spectator sports	Category not used	Up to 75 dBA	Over 70 dBA	Category not used
Playgrounds, neighborhood parks	Up to 70 dBA	Category not used	67.5–75 dBA	Over 72.5 dBA

Table 3.14-1. County of Riverside Land Use Compatibility Standards

Land Use	CNEL or L_{dn} Noise Level			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Golf courses, riding stables, water recreation, cemeteries	Up to 75 dBA	Category not used	70–80 dBA	Over 80 dBA
Office buildings, business commercial, professional	Up to 70 dBA	67.5–77.5 dBA	Category not used	Over 75 dBA
Industrial, manufacturing, utilities, agriculture	Up to 75 dBA	70–80 dBA	Category not used	Over 75 dBA

Source: Noise Element Table N-1 (County of Riverside 2015).

Notes: CNEL = Community Noise Equivalent Level; L_{dn} = day/night average sound level; dBA = A-weighted decibel.

Policies for Noise Compatibility. The following County General Plan Noise Element policies protect noise-sensitive land uses from noise emitted by outside sources and prevent new projects from generating adverse noise levels on adjacent properties (County of Riverside 2015):

- **Policy N 1.1.** Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise-producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or block walls shall be used.
- **Policy N 1.2.** Guide noise-tolerant land uses into areas irrevocably committed to land uses that are noise-producing, such as transportation corridors or within the projected noise contours of any adjacent airports.
- **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 1.8.** Limit the maximum permitted noise levels that cross property lines and impact adjacent land uses, except when dealing with noise emissions from wind turbines.
- **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.

Temporary Construction. The County General Plan Noise Element includes numerous policies intended to minimize noise-related conflicts between adjacent types of land uses. Policies addressing "temporary construction" activities include the following (County of Riverside 2015):

- **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.
- **Policy N 13.4.** Require that all construction equipment utilize noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

Stationary Sources of Noise. The County General Plan Noise Element also identifies preferred noise standards for stationary noise sources that affect residential land uses, as shown in Table 3.14-2.

Table 3.14-2. Stationary Source Land Use Noise Standards

Land Use	Time of Day	Interior Noise Standard	Exterior Noise Standard
Residential	10:00 p.m. to 7:00 a.m.	40 L_{eq} dBA, 10-minute	45 L_{eq} dBA, 10-minute
Residential	7:00 a.m. to 10:00 p.m.	45 L_{eq} dBA, 10-minute	65 L_{eq} dBA, 10-minute

Source: Noise Element Table N-2 (County of Riverside 2015).
Notes: Leq = equivalent sound level; dBA = A-weighted decibel.
The County General Plan Noise Element indicates that these levels are preferred standards; final decision will be made by the County Planning Department and Office of Public Health.

Vibration. The County General Plan Noise Element (County of Riverside 2015) includes consideration of groundborne vibrations. Residential areas, schools, and sensitive research operations are among the land uses that are vibration-sensitive. Groundborne vibrations can be a source of annoyance to people or a source of structural damage to some types of buildings. Although vibration measurements can be presented in many different forms, peak particle velocity (PPV) is the unit of measure used most often to assess building damage potential. Table 3.14-3 describes human reaction to typical vibration levels.

Table 3.14-3. Human Reaction to Typical Vibration Levels

Vibration Level Peak Particle Velocity (inches per second)	Human Reaction
0.0059–0.0188	Threshold of perception, possibility of intrusion
0.0787	Vibrations readily perceptible
0.0984	Continuous vibration begins to annoy people
0.1968	Vibrations annoying to people in buildings
0.3937–0.5905	Vibrations considered unpleasant when continuously subjected and unacceptable by some walking on bridges

Source: California Department of Transportation data in County General Plan Noise Element Table N-3 (County of Riverside 2015).

As illustrated in Table 3.14-3, the County General Plan Noise Element identifies vibration levels with a PPV of 0.08 in/sec as readily perceptible and a PPV above 0.2 in/sec is considered annoying to people in buildings. Further, the County General Plan Policy N 16.3 identifies a motion velocity perception threshold for vibration due to passing trains of 0.01 in/sec over the range of 1 to 100 hertz (Hz). For the purposes of this analysis, the vibration annoyance threshold of 0.2 in/sec shall be used to assess the potential impacts due to Project construction at nearby sensitive receptor locations.

Desert Center Area Plan

The Desert Center Area Plan (County of Riverside 2021) does not state any additional goals and policies related to noise exposure.

County of Riverside Noise Ordinance

The County Noise Ordinance allows for different levels of acceptable noise depending on land use. The Noise Ordinance or Ordinance No. 847 (Regulating Noise) is incorporated in the County Code as Chapter 9.52 (Noise Regulation). The standards in Chapter 9.52.040 (also Section 4 of Ordinance No. 847) limit noise sources on any property from causing excessive exterior noise on any other nearby occupied property. The maximum decibel level standards depend on the receiving land use, such that sound levels in a low-density "Rural Community" must not exceed 55 dBA L_{max} during the daytime hours (7:00 a.m. to 10:00 p.m.) or 45 dBA L_{max} during the nighttime hours (10:00 p.m. to 7:00 a.m.). These County standards protect noise-sensitive receptors within the very-low-density rural areas near the Project.

Section 2 of Ordinance No. 847 specifies that the following construction activities are exempt from the provisions of the noise ordinance:

- Private construction projects located 0.25 miles or more from the nearest inhabited dwelling
- Private construction projects located within 0.25 miles of an inhabited dwelling, provided that construction activities are limited to 6:00 a.m. to 6:00 p.m. during the months of June through September and are limited to 7:00 a.m. to 6:00 p.m. during the months of October through May

3.14.2 Environmental Setting

Fundamentals of Community Noise

Vibrations, traveling as waves through air from a source, exert a force perceived by the human ear as sound. Sound pressure level (referred to as sound level) is measured on a logarithmic scale in decibel (dB) that represents the fluctuation of air pressure above and below atmospheric pressure. Frequency, or pitch, is a physical characteristic of sound and is expressed in units of cycles per second or hertz (Hz). The normal frequency range of hearing for most people extends from about 20 to 20,000 Hz. The human ear is more sensitive to middle and high frequencies, especially when the noise levels are quieter. As noise levels get louder, the human ear starts to hear the frequency spectrum more evenly. To accommodate for this phenomenon, a weighting system to evaluate how loud a noise level is to a human was developed. The frequency weighting, called "A" weighting, is typically used for quieter noise levels, which de-emphasizes the low-frequency components of the sound in a manner similar to the response of a human ear. This A-weighted sound level is called the "noise level" and is referenced in units of A-weighted decibel (dBA). Table 3.14-4 presents typical noise levels for common outdoor and indoor activities. Since sound is measured on a logarithmic scale, a doubling of sound energy results in a 3 dBA increase in the noise level. Changes in a community noise level of less than 3 dBA are not typically noticed by the human ear (Caltrans 2020b). Changes from 3 to 5 dBA may be noticed by some individuals who are extremely sensitive to changes in noise. A 5 dBA increase is readily noticeable (EPA 1974). The human ear perceives a 10 dBA increase in sound level as a doubling of the sound level (i.e., 65 dBA sounds twice as loud as 55 dBA to a human ear).

Table 3.14-4. Typical Noise Levels Associated with Common Activities

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Flyover at 1,000 feet	105	
	100	
Gas Lawn Mower at 3 feet	95	
	90	

Table 3.14-4. Typical Noise Levels Associated with Common Activities

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Diesel Truck at 50 feet, 50 miles per hour	85	Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area, Daytime	75	
	70	Vacuum Cleaner at 10 feet
Commercial Area	65	Normal Speech at 3 feet
Heavy Traffic at 300 feet	60	
	55	Large Business Office
Quiet Urban Daytime	50	Dishwasher (in next room)
	45	
Quiet Urban Nighttime	40	Theater, Conference Room (background)
Quiet Suburban Nighttime	35	
	30	Library
Quiet Rural Nighttime	25	Bedroom at Night, Concert Hall (background)
	20	
	15	Broadcast/Recording Studio
	10	
	5	
Lowest Threshold of Human Hearing (Healthy)	0	Lowest Threshold of Human Hearing (Healthy)

Source: Caltrans 2020b.
Notes: dBA = A-weighted decibel.

An individual's noise exposure occurs over time; however, noise level is a measure of noise at a given instant in time. Community noise sources vary continuously, being the product of many noise sources at various distances, all of which constitute a relatively stable background or ambient noise environment. The background, or ambient, noise level gradually changes throughout a typical day, corresponding to distant noise sources such as traffic volume and changes in atmospheric conditions. The time-varying character of environmental noise is often described with use of statistical or percentile noise descriptors including L_{10}, L_{50}, and L_{90}. These are the noise levels equaled or exceeded during 10%, 50%, and 90% of the measured time interval. Sound levels associated with L_{10} typically describe transient or short-term events, such as the noise from distinct passing cars and trucks. L_{50} represents the median sound level during the measurement. Levels will be above and below this value exactly one-half of the accumulated measurement time. L_{90} is the sound level exceeded 90% of the time, and often is used to describe background noise conditions or sources that are continuous or "steady-state" in character.

Noise levels are generally higher during the daytime and early evening when traffic (including airplanes), commercial, and industrial activity is the greatest. However, noise sources experienced during nighttime hours when background levels are generally lower can be potentially more conspicuous and irritating to the receptor. To evaluate noise in a way that considers periodic fluctuations experienced throughout the day and night, a concept termed "Community Noise Equivalent Level" (CNEL) was developed, wherein noise measurements are weighted, added, and averaged over a 24-hour period to reflect magnitude, duration, frequency, and time of occurrence. To characterize ambient noise levels at a given location in a community, 24-hour continuous sound level measurements are typically conducted, from which the CNEL can be calculated. In addition, because traffic along highways and major roadways represents a major contributor to community noise, short-term (generally less than 1 hour in duration) sound level measurements accompanied by manual counts of vehicles passing the measurement point are normally

also conducted. The sound level data and vehicle counts can then be used with traffic noise modeling software to predict traffic noise from existing and future average daily traffic on such roadways.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}, respectively), percentile-exceeded sound level (L_{xx}), the day/night sound average level (L_{dn}), and the CNEL. The following list provides brief definitions of noise terminology used in this report.

- **Decibel** (dB) is a unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals.
- **A-weighted decibel** (dBA) is an overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Equivalent sound level** (L_{eq}) is the constant level that, over a given time period, transmits the same amount of acoustic energy as the actual time-varying sound. Equivalent sound levels are the basis for both the L_{dn} and CNEL scales.
- **Maximum sound level** (L_{max}) is the maximum sound level measured during the measurement period.
- **Minimum sound level** (L_{min}) is the minimum sound level measured during the measurement period.
- **Percentile-exceeded sound level** (L_{xx}) is the sound level exceeded X% of a specific time period. L_{10} is the sound level exceeded 10% of the time.
- **Day/night average sound level** (L_{dn}) is a 24-hour average A-weighted sound level with a 10 dB penalty added each of the hourly average noise levels occurring in the nighttime hours from 10:00 p.m. to 7:00 a.m. The 10 dB penalty is applied to account for increased noise sensitivity during the nighttime hours.
- **Community Noise Equivalent Level** (CNEL) is the average equivalent A-weighted sound level during a 24-hour day. CNEL accounts for the increased noise sensitivity during the evening hours (7:00 p.m. to 10:00 p.m.) and nighttime hours (10:00 p.m. to 7:00 a.m.) by adding 5 dB to the recorded hourly average sound levels in the evening and 10 dB to the hourly average sound levels at night.

Exterior Noise Attenuation

Noise sources are classified in two forms: (1) point sources, such as stationary equipment or a group of construction vehicles and equipment working within a spatially limited area at a given time; and (2) line sources, such as a roadway with a large number of pass-by sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of 6.0 dBA for each doubling of distance from the source to the receptor at acoustically "hard" sites and at a rate of 7.5 dBA for each doubling of distance from source to receptor at acoustically "soft" sites (Caltrans 2020b). Sound generated by a line source (i.e., a roadway) typically attenuates at a rate of 3 dBA and 4.5 dBA per doubling distance, for hard and soft sites, respectively (Caltrans 2020b). Sound levels can also be attenuated by human-made or natural barriers. For the purpose of a sound attenuation discussion, hard sites are ground surfaces do not provide any excess ground-effect attenuation and is characteristic of asphalt or concrete ground surfaces, as well as very hard-packed soils. An acoustically soft or absorptive site is characteristic of unpaved loose soil or vegetated ground.

With respect to examples of this distance-attenuation relationship for exterior noise, a 60 dBA noise level measured at 50 feet from a tractor installing fenceposts within a packed earth feedlot site would diminish to 54 dBA at 100 feet from the source, and to 48 dBA at 200 feet from the source. This scenario is addressed by the point source attenuation for a hard site (6 dBA with each doubling of the distance). For

the scenario where soft-site conditions exist between the point source and receptor, represented by natural vegetation, planted row crop, or plowed furrows adjacent to the work area, an attenuation rate of 7.5 dBA per doubling of distance would apply; the tractor noise measured as 60 dBA at 50 feet would diminish to 52.5 dBA at 100 feet from the source and to 45 dBA at 200 feet from the source, where soft ground exists between the sound source and the receptor location.

Structural Noise Attenuation

Sound levels can also be attenuated by human-made or natural barriers. Solid walls, berms, or elevation differences typically reduce noise levels in the range of approximately 5 to 15 dBA (Caltrans 2020b). Structures can also provide noise reduction by insulating interior spaces from outdoor noise. The outside-to-inside noise attenuation provided by typical structures in California ranges between 17 to 30 dBA with open and closed windows, respectively, as shown in Table 3.14-5.

Table 3.14-5. Outside-to-Inside Noise Attenuation (dBA)

Building Type	Open Windows	Closed Windows
Residences	17	25
Schools	17	25
Churches	20	30
Hospitals/Offices/Hotels	17	25
Theaters	17	25

Source: Transportation Research Board, National Research Council 1971.
Notes: dBA = A-weighted decibel.
As shown, structures with closed windows can attenuate exterior noise by a minimum of 25 to 30 dBA.

Fundamentals of Vibration

Vibration is an oscillatory motion that can be described in terms of displacement, velocity, or acceleration. Heavy equipment operation, including stationary equipment that produces substantial oscillation or construction equipment that causes percussive action against the ground surface, may be experienced by building occupants as perceptible vibration. It is also common for groundborne vibration to cause windows, pictures on walls, or items on shelves to rattle; this transfer of vibration energy in the ground to structures resulting in audible sound is termed groundborne noise. The metric for groundborne noise is the vibration decibel (VdB). Although the perceived vibration from such equipment operation can be intrusive to building occupants, the vibration is seldom of sufficient magnitude to cause even minor cosmetic damage to buildings.

Peak particle velocity (PPV) that describes particle movement over time (in terms of physical displacement of mass, expressed as inches/second or in/sec) is generally employed for the discussion of vibration impacts on structures. Groundborne vibration generated by construction projects is usually highest during pile driving, rock blasting, soil compacting, jack hammering, and demolition-related activities. Next to pile driving and soil compacting, grading activity has the greatest potential for vibration impacts when earthwork involves large bulldozers, large trucks, or other heavy equipment.

Health Effects of Noise

Excessively noisy conditions can affect an individual's quality of life, health, and well-being. The effects of noise can be organized into six broad categories: sleep disturbance, permanent hearing loss, human performance and behavior, social interaction or communication, extra-auditory health effects, and general annoyance. An individual's reaction to noise and its level of disturbance depends on many factors

such as the source of the noise, its loudness relative to the background noise level, time of day, whether the noise is temporary or permanent, and subjective sensitivity.

In 1974, EPA published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA 550/9-74-004). This publication is considered an authoritative study on protective noise levels based on its large sampling of human reaction to community noise. The EPA community noise level guidance does not provide a quantification of noise impact, but rather presents a reasonable estimate of potential noise interference with common activities, human health and welfare effects from noise, and annoyance with noise. These guidance community noise levels were derived without concern for their feasibility and contain a margin of safety to ensure their protective value; consequently, the guidance should not be considered to represent standards, criteria, or regulations. Rather, they represent levels below which there is no reason to suspect that the general population will be at risk from any of the identified effects of noise. The EPA guideline limits are summarized in Table 3.14-6.

Table 3.14-6. EPA Cause and Effect Noise Levels Summary

Location	Level	Effect
All publicly accessible areas with prolonged exposure	70 dBA $L_{eq(24)}$	Safety
Outdoor at residential structure and other noise-sensitive receptors where a large amount of time is spent	55 dBA L_{dn}	Protection against annoyance and activity interference
Outdoor areas where limited amounts of time are spent, e.g., park areas, school yards, golf courses, etc.	55 dBA $L_{eq(24)}$	
Indoor residential	45 dBA L_{dn}	
Indoor nonresidential	55 dBA $L_{eq(24)}$	

Source: EPA 1974.
Notes: dBA = A-weighted decibel; L_{dn} = day/night average sound level; $L_{eq(24)}$ = sound equivalent level across a 24-hour period.

Existing Noise Environment

Ambient Noise Survey

To establish existing baseline community noise levels (also known as outdoor ambient noise levels), a series of sound level measurements were taken in the Project area. Sound-pressure level measurements of short duration (i.e., less than 1 hour apiece) and long duration (at least 24 hours in length) were conducted in the vicinity of the Project site to quantify and characterize the existing outdoor ambient noise levels. The short-term measurements were conducted primarily to gather data necessary to calibrate the traffic noise model, while the long-term measurements provide sound level data throughout the day and night to describe representative ambient noise levels for receptors in the vicinity of the long-term measurement location.

The sound-pressure level measurements were performed by a field investigator using a SoftdB Piccolo model sound level meter equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The sound level meter meets the current American National Standards Institute standard for a Type 2 (general purpose) sound level meter. The accuracy of the sound level meter was verified using a field calibrator before and after the measurements, and the measurements were conducted with the microphone positioned approximately 5 feet above the ground. Table 3.14-7, Measured Short-Term Ambient Outdoor Noise Levels, and Table 3.14-8, Measured Long-Term Ambient Outdoor Noise Levels, provide the location and time at which these baseline noise level measurements were taken.

As detailed in Table 3.14-7, four short-term noise level measurement locations were selected (ST1–ST4) that represent either existing sensitive receptors and/or roadway facilities to which the Project would

principally contribute trips. As detailed in Table 3.14-8, the long-term measurement locations (LT1 and LT2) were placed adjacent to residences closest to the Project site. These noise measurement locations are depicted on Figure 3.14-1, Ambient Noise Measurement Locations.

The L_{eq} and L_{max} noise levels measured at the short-term measurement locations are provided in Table 3.14-7. The primary noise sources at the sites identified in Table 3.14-7 consisted of traffic along roadways in the vicinity. As shown in Table 3.14-7, the measured existing ambient sound levels at ST1–ST4 ranged from approximately 37 dBA L_{eq} at ST1 to 72 dBA L_{eq} at ST3. ST1 and ST2 were located adjacent to local roads serving the Tamarisk Desert Resort and Shasta Drive residential neighborhood, with very light vehicle traffic over the duration of the measurement. The recorded ambient sound levels of 37 and 42 L_{eq} along these local streets is representative of quiet residential neighborhood conditions. The higher noise levels recorded at ST3 and ST4 are also expected due to their locations adjacent to the heavily traveled State Route (SR) 177. Noise measurement data summarized in Table 3.14-7 are also included in Appendix Q along with field data sheets that provide additional information about field conditions and noise contributors to each measured sound level.

Table 3.14-7. Measured Short-Term Ambient Outdoor Noise Levels

Receptor	Location/Address	Time	L_{eq} (dBA)	L_{max} (dBA)
ST1	Lake Tamarisk Desert Resort southwest of Project site, west side of SR-177	4:55 p.m. to 5:25 p.m.	37	54
ST2	Small residential neighborhood southwest of Project site, west side of SR-177	12:10 p.m. to 12:25 p.m.	42	59
ST3	Mobile home park, due south of Project site (second-closest sensitive receptor), east side of SR-177	12:35 p.m. to 12:50 p.m.	72	88
ST4	Closest residence to Project site, due east of Project, west side of SR-177	3:05 p.m. to 3:35 p.m.	70	92

Source: Appendix Q.
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level recorded during the measurement interval; dBA = A-weighted decibels; ST = short-term noise measurement locations; SR = State Route.

For the long-term measurements, each Piccolo sound level meter was configured to record data for 1-hour intervals. Sound level metrics, including L_{eq}, L_{max}, L_{min}, were recorded for each 1-hour period. Data logs for each of the two measurement locations are included in Appendix Q. Table 3.14-8 presents a summary of the results of the long-term measurements.

Table 3.14-8. Measured Long-Term Ambient Outdoor Noise Levels

Receptor	Location/Address	Daytime L_{eq} (dBA)	Evening L_{eq} (dBA)	Nighttime L_{eq} (dBA)	CNEL (dBA)
LT1	Lake Tamarisk Desert Resort southwest of Project site, west side of SR-177	51	46	41	51
LT2	Closest residence to Project site, due east of Project, west side of SR-177	65	60	60	67

Source: Appendix Q.
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibels; CNEL = Community Noise Equivalent Level; LT = long-term noise measurement locations; SR = State Route.

Based upon Table 3.14-8, existing ambient noise levels at the residences represented by LT2 are strongly influenced by traffic along SR-177. In contrast, existing ambient noise levels at receptors represented by LT1 are much lower, indicating this vicinity is less exposed to SR-177 traffic noise. Because the 24-hour measurement data provide more detailed information regarding ambient noise levels, the existing ambient noise levels for this report are based on the 24-hour measurement results presented in Table 3.14-8.

Modeled Existing Traffic Noise Levels

Existing average daily traffic (ADT) on roadways in the Project vicinity were identified, including SR-177 (Rice Road) north and south of Ragsdale Road and Kaiser Road north/west of SR-177 (Appendix G). The ADT determination for the roadways is based upon detailed counts of vehicle movements through intersections as conducted by transportation professionals and forms the basis of transportation-related roadway performance analysis. The ADT identified by transportation professionals is used as an input to the traffic noise model.

Kaiser Road is proposed as the primary Project access as well as the route for construction traffic to access the Project site, while SR-177 would be utilized as an emergency services route for the Project. Residences in the general vicinity of the Lake Tamarisk Desert Resort are located adjacent to Kaiser Road for the segment west/south of the Project and also along SR-177, which is located east and southeast of the Project. Based upon the identified existing ADTs for these roadway segments, the traffic noise level along the roadways was calculated using equations adapted from the Federal Highway Administration (FHWA) Traffic Noise Model (TNM 2.5). The traffic noise levels in Table 3.14-9 are based upon reported existing ADTs, and not on the manual traffic counts conducted during the short-term ambient noise measurements. (Short-term manual counts are used in calibrating the model to ensure accuracy for local conditions.)

Table 3.14-9. Modeled Existing Traffic Noise Levels (dBA)

Road	Associated Short-Term Noise Measure Location	Daytime Hourly L_{eq}	Nighttime Hourly L_{eq}	CNEL
SR-177 North of Ragsdale Road	ST3 and ST4	67	58	68
Kaiser Road west/north of SR-177	ST1 and ST2	55	47	56

Notes: dBA = A-weighted decibels; L_{eq} = equivalent continuous sound level (time-averaged sound level); CNEL = Community Noise Equivalent Level; SR = State Route.

Noise- and Vibration-Sensitive Receptors

In the County Noise Ordinance and County General Plan Noise Element, "noise-sensitive" land uses include residences, passive recreation areas, schools, hospitals, rest homes, places of worship, and cemeteries (County of Riverside 2015). Noise-sensitive areas are places where quiet is necessary for the intended use of the land, such as residences where noise can interfere with sleep, concentration, and communication, and where excessive noise can cause physiological and psychological stress and hearing loss. In addition, wildlife management areas where breeding could be disturbed are considered sensitive receptors to noise. Residences, hospitals, rest homes, and schools are also considered vibration-sensitive; in addition, vibration-sensitive land uses also include institutional uses such as laboratories where the activities within the building are particularly sensitive to vibration.

Noise- and vibration-sensitive receptors in the Project vicinity are represented by residential units, including single-family homes and mobile homes. The closest sensitive receptors to the Project site parcel boundaries include a cluster of three residences located 0.4 miles (2,115 feet) east of the Project site along the west side of SR-177, which is represented as location ST4/LT2 on Figure 3.14-1. The next closest noise-sensitive receptors are represented by mobile homes (Green Acres Mobile Park), located approximately 1 mile to the south of the Project site, on the east side of SR-177 (ST3 on Figure 3.14-1). Another set of sensitive receptors, Lake Tamarisk Desert Resort (LTDR), includes mobile home spaces, a golf course, a community building, and single-family residences. It is located approximately 1.28 miles to the southwest of the Project site (ST1/LT1 on Figure 3.14-1). Single-family residences in a small neighborhood (Shasta Drive) are located approximately 1.5 miles to the southwest of the Project site (ST2 on Figure 3.14-1). Construction activities and noise-generating equipment of the Project are not expected to extend up to the Project site

boundaries, and therefore the above-referenced distances to sensitive receptors represent a very conservative approach, with actual separation distances likely to be greater. Refer to Figure 3.14-1 for the relative location of these receptors to the Project site. The closest boundaries of Joshua Tree National Park to the Project site are at distances of approximately 3 miles northeast and approximately 4.5 miles west.

3.14.3 Impact Analysis

Methodology

Construction/Decommissioning Noise Methodology

One of the most extensive and widely used databases for sound levels from motorized or powered equipment is the FHWA Roadway Construction Noise Model (RCNM). While the focus of data compilation was for equipment that would typically be employed for the construction of transportation facilities, the list is comprehensive enough to be useful in assessing sound levels for nearly every activity for which powered equipment is used. Table 3.14-10 provides an excerpt from RCNM of the sound levels generated by various powered equipment that could be associated with construction and eventual decommissioning of the Project. Note that the equipment noise levels presented in Table 3.14-10 are maximum noise levels. Usually, construction equipment operates in alternating cycles of full power and low power, producing average noise levels over time that are less than the maximum noise level. The average sound level of construction or decommissioning activity also depends on the amount of time that the equipment operates and the intensity of construction or decommissioning activities during that time.

Table 3.14-10. Selected Powered Equipment Noise Emission Levels from RCNM

Equipment	Maximum Sound Level (dBA L_{max}) 50 feet from Source
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Loader	85
Paver	89
Pneumatic Tool	85
Pump	76
Roller	74
Saw	76
Scraper	89
Truck	88

Source: FHWA 2006a, 2006b.
Notes: RCNM = Roadway Construction Noise Model; dBA = decibel (A-weighted); L_{max} = maximum sound level recorded during the measurement interval.

Noise emissions from the construction phase of the Project were estimated based upon construction phasing, equipment mix, vehicle trips, and California Emissions Estimator Model (CalEEMod) default values when Project specifics were not known. The construction equipment mixes, and vehicle trips used for estimating the Project-generated construction noise emissions, are included in Appendix Q.

A noise prediction model emulating and using reference data from the FHWA RCNM was used to estimate construction noise levels at the nearest noise-sensitive land use (i.e., residence), based upon the distance between the closest Project construction activities and this residence. Aggregate noise emission from Project construction activities, broken down by sequential phase of construction activity, was predicted for the worst-case construction activity occurring along the closest construction boundary to the off-site closest residence. Predicted construction noise levels were compared to the recommended FTA construction noise exposure standard and to measured ambient noise levels. Decommissioning of the Project would involve the removal of all the installed equipment and site improvements—essentially the reverse of the construction process. As such, decommissioning would be anticipated to include the same construction equipment and the same activities (but reversed) as the construction process, and therefore decommissioning activities would result in the same noise levels as construction activities at the closest residences to the Project site.

Traffic Noise Methodology

The transportation analysis identified the existing ADT on roadways in the Project vicinity, including Kaiser Road west/north of SR-177 (Rice Road) and SR-177 north and south of Ragsdale Road (Appendix G). Residences are located adjacent to the segment of Kaiser Road south of the Project site and adjacent to SR-177 east and southeast of the Project site. Project-related traffic noise levels were examined along these same roadways using the results of the traffic analysis. Acoustical calculations using standard noise modeling equations adapted from the FHWA noise prediction model were performed for the following scenarios: Existing, Existing Plus Project Construction Traffic, and Existing Plus Project Operational Traffic.

The modeling calculations take into account the posted vehicle speed, average daily traffic volumes for each scenario, and the estimated vehicle mix (i.e., automobiles, medium and heavy trucks). The model assumed soft site propagation conditions, as the roadways are surrounded by undeveloped agriculture lands. Noise levels were modeled at 25 feet from the centerline of each road. Noise levels at greater distances from the roadway centerline would be lower due to attenuation provided by increased distance from the noise source. Generally, noise from heavily traveled roadways would experience a decrease of approximately 3 dBA for every doubling of distance from the roadway. The noise model does not take into account the sound-attenuating effect of intervening structures, barriers, vegetation, or topography. Therefore, the noise levels predicted by the model are conservative with respect to traffic noise exposure levels along these roadways.

Operational Noise Level Quantification Methodology

Long-term operational Project noise was assessed based upon the site layout plans indicating locations for each of the major noise-generating components, identified sound level for each piece of equipment, and the location of the closest noise-sensitive receptors (i.e., residences) to the Project site. Noise-producing equipment associated with the Project includes photovoltaic (PV) trackers; string inverters for PV panel arrays; integrated battery energy storage system (BESS) consisting of batteries, controllers, and inverters; mid-level transformers; emergency electrical power generators; substations/switching stations with step-up transformers; and heating, ventilation, and air conditioning (HVAC) equipment for the BESS and the operations and maintenance (O&M) building. Refer to Figure 3.14-2, Site Plan, for the site layout indicating the location of the Project components described above.

Prediction of operation noise attributed to the Project involved creation of a sound propagation model for calculation, presentation, assessment, and prediction of environmental noise. Estimated sound emission from the battery storage units (POWIN Stack 750 units with top-mounted cooling units), battery inverter/transformer units (SMA Sunny Central 3950 UP-XT-US), PV string inverters (SMA Sunny Central

SC 2500-EV), medium-voltage transformers, step-up transformers, emergency electrical generators, and O&M building HVAC were entered into the noise prediction model. The outdoor noise propagation formulas in the noise prediction model follow the International Organization for Standardization (ISO) Standard 9613-2, Attenuation of Sound During Propagation Outdoors, Part 2: General Method of Calculation (ISO 1996).

Calculation parameters that establish how the noise model predicts the combined noise level from the above-listed Project sources include as follows:

- Sound propagation per ISO 9613-2 (ISO 1996)
- Default ground acoustical absorption coefficient = 0.5 (on a scale of 0 = reflective, 1 = absorptive)
- Zero order of reflection

Vibration Assessment Methodology

Caltrans has been assembling data for vibration levels generated by heavy construction equipment operation during the building of transportation projects for many years. The vibration levels from use of such equipment are representative for other types of construction efforts, not just transportation projects, and are therefore widely employed to assess vibration levels from heavy equipment use for any effort. According to Caltrans (2020a), the most important equipment relative to generation of vibration, and the vibration levels produced by such equipment, is illustrated in Table 3.14-11.

Table 3.14-11. Vibration Velocities for Typical Construction Equipment

Equipment	PPV at 25 Feet (inches per second)	Approximate VdB at 25 Feet
Vibratory Roller	0.210	94
Large Bulldozer	0.089	87
Loaded Trucks	0.076	86
Drill Rig/Auger	0.089	97
Jackhammer	0.035	79
Small Bulldozer	0.003	58
Vibratory Pile Driver	0.650	104

Source: Caltrans 2020a.
Notes: PPV = peak particle velocity; VdB = vibration decibels.

According to the County General Plan Noise Element, vibration levels with a PPV of 0.08 in/sec are considered readily perceptible and a PPV above 0.2 in/sec are considered annoying to people in buildings. Further, the County General Plan Policy N 16.3 identifies a motion velocity perception threshold for vibration due to passing trains of 0.01 in/sec over the range of 1 to 100 Hz. For the purposes of this analysis, the vibration annoyance threshold of 0.2 in/sec shall be used to assess the potential impacts due to Project construction at nearby sensitive receptor locations.

Using the vibration level value for each of the equipment listed in Table 3.14-11, the distance to the target vibration level of 0.2 in/sec PPV was determined, using the following formula:

$$\text{Peak particle velocity at distance (d)} = \text{peak particle velocity}(d_{ref}) * (d_{ref}/d)^{1.5}$$

In the above equation, "d" is the distance between the receptor and a vibration source, and "d_{ref}" is the reference distance that applies for the indicated vibration magnitude. The calculated distance to a vibration level of 0.2 in/sec PPV represents the radius from each equipment type within which potentially significant vibration impacts from Project construction could occur. Table 3.14-12 presents the results of applying the above equation to the equipment in Table 3.14-11.

As illustrated in Table 3.14-12, groundborne vibration levels for most construction equipment would attenuate to less than 0.2 in/sec PPV within approximately 15 feet from the equipment. For a vibratory roller, the distance at which groundborne vibration levels would attenuate to 0.2 in/sec PPV would be approximately 30 feet; for a vibratory pile driver the distance would be 60 feet.

Table 3.14-12. Distance Radius from Construction Equipment to Vibration Level of 0.2 in/sec PPV

Equipment	Distance from Equipment Where Vibration Level Is Reduced to 0.2 in/sec PPV (feet)
Vibratory Roller	30
Large Bulldozer	15
Loaded Trucks	15
Drill Rig/Auger	15
Jackhammer	10
Small Bulldozer	2
Vibratory Pile Driver	60

Source: Caltrans 2020a.
Notes: in/sec = inches per second; PPV = peak particle velocity.

With respect to groundborne noise, the VdB at any distance is calculated using the following formula:

$$VdB(D) = VdB(25\ ft) - 30\log(D/25)$$

Where:

VdB(D) = Vibration level at distance D

D = distance from equipment to the receiver in feet

VdB(25 ft) = reference vibration level at 25 feet from source

The calculated distance to a groundborne noise level of 78 VdB (the Caltrans daytime threshold for residential occupants) represents the radius from each equipment type within which potentially significant groundborne noise impacts from Project construction could occur. Table 3.14-13 presents the results of applying the above equation to the equipment in Table 3.14-11.

Table 3.14-13. Distance Radius from Construction Equipment to Groundborne Noise Level of 78 VdB

Equipment	Distance from Equipment Where Vibration Level Is Reduced to 78 VdB
Vibratory Roller	90
Large Bulldozer	50
Loaded Trucks	50
Drill Rig/Auger	120
Jackhammer	30
Small Bulldozer	10
Vibratory Pile Driver	200

Source: Caltrans 2020a.
Notes: VdB = vibration decibels; in/sec = inches per second; PPV = peak particle velocity.

As illustrated in Table 3.14-13, groundborne noise levels for most construction equipment would attenuate to less than 78 VdB within approximately 50 feet from the equipment. For a vibratory roller, the distance at which groundborne noise levels would attenuate to 78 VdB would be approximately 90 feet; for an auger drill rig the distance would be 120 feet; for a vibratory pile driver the distance would be 200 feet.

Criteria for Determining Significance

Each California Environmental Quality Act (CEQA) lead agency has discretion to establish thresholds for when a noise level increase would be considered substantial. Section XIII of Appendix G of the State CEQA Guidelines addresses typical adverse effects due to noise and includes the following threshold questions to evaluate a project's impacts due to noise. Would the project:

a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b) Result in generation of excessive groundborne vibration or groundborne noise levels?

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

The following significance thresholds, set forth in the County's Environmental Assessment Checklist, are derived from Section XIII of Appendix G of the State CEQA Guidelines (listed above), and are used to evaluate the significance of impacts due to noise and vibration in this analysis:

a) For a project located within an airport land use plan or, where such a plan has not been adopted, within two (2) miles of a public airport or public use airport would the project expose people residing or working in the project area to excessive noise levels?

b) For a project located within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

c) Would the project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies?

d) Would the project result in the generation of excessive ground-borne vibration or ground-borne noise levels?

Environmental Impacts

This section includes an examination of the Project's impacts due to noise and vibration per the County's Environmental Assessment Checklist and Appendix G of the State CEQA Guidelines identified above.

Threshold a: For a project located within an airport land use plan or, where such a plan has not been adopted, within two (2) miles of a public airport or public use airport would the project expose people residing or working in the project area to excessive noise levels?

NO IMPACT. The closest public use airport to the Project site is the Jacqueline Cochran Regional Airport located approximately 45 miles to the west. Airport operations and aircraft activity associated with this public airport would not contribute to ambient noise levels in the Project vicinity, nor result in the exposure of vicinity residents or Project-related construction workers to excessive noise levels. Because the Project is not located within an airport land use plan or within 2 miles of a public airport or public use airport, there would be no impact.

Threshold b: For a project located within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

LESS THAN SIGNIFICANT. Desert Center Airport is located approximately 1.25 miles to east of the Project site. This airstrip was once a portion of General Patton's Desert Training Center. In 2006, the County Economic Development Agency sold the airport property to a private entity (Chuckwalla Valley Associates, LLC). The airport includes one paved runway with a length of 4,200 feet, which can accommodate moderate-sized propeller-driven aircraft. However, Desert Center Airport does not have a control tower, and neither aviation fuel nor other flight services are available at the facility. Consequently, aircraft activity at Desert Center Airport tends to be fairly limited. The Project would have no effect upon the volume of aircraft activity at Desert Center Airport, and the Project would also not include development of new residential structures. With the very limited aircraft operations at this nearby private airstrip, it is not anticipated that construction workers for the Project would be exposed to elevated noise levels associated with Desert Center Airport. Therefore, any impacts would be less than significant.

Threshold c: Would the project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies?

LESS THAN SIGNIFICANT.

Project Construction and Decommissioning

As described under Construction/Decommissioning Noise Methodology (above), construction noise modeling was performed to predict construction noise levels at Project vicinity noise-sensitive uses, including a group of residences approximately 0.4 miles (2,115 feet) east of the Project site (Figure 3.14-1, LT2) and receptors at the Lake Tamarisk Desert Resort (LT1) no closer than approximately 1.25 miles (6,600 feet) from Project construction activity. Table 3.14-14 provides a summary of the construction noise modeling; detailed information is provided in Appendix Q. Construction noise levels at receptors in the Project vicinity were modeled based upon construction equipment operation and activities along the closest Project boundary to a given receptor. In practice, construction activities will be distributed across the entire Project site, involving greater separation distances and lower noise levels at receptors in the Project vicinity; the noise levels in Table 3.14-14 (representing construction along the Project site boundary) would be anticipated to occur not more than approximately 10% of the total Project construction duration. Because decommissioning of the Project would represent the reverse of the construction process, involving the same equipment and activities as Project construction, decommissioning of the Project would be anticipated to result in the same temporary noise levels at vicinity noise-sensitive receptors as the construction noise levels presented in Table 3.14-14; again, the values in Table 3.14-14 would occur not more than approximately 10% of the decommissioning period, while decommissioning activities are carried out along the Project site boundary closest to a given receptor.

Table 3.14-14. Construction Noise Levels at Nearby Noise-Sensitive Receptors by Phase

	Construction Noise Level (dBA) at LT1		Construction Noise Level (dBA) at LT2	
Phase	L_{max}	$L_{eq\ 8\text{-}hr\ /\ 1\ hr}$	L_{max}	$L_{eq\ 8\text{-}hr\ /\ 1\ hr}$
(1) Move On	55	51	65	61
(2) Site Prep and Grading	55	52	65	62
(3) New Access Road Construction	54	50	64	60
(4) Generation Tie Line Construction	51	47	61	57
(5) Internal Roads Construction	51	47	61	57

Table 3.14-14. Construction Noise Levels at Nearby Noise-Sensitive Receptors by Phase

Phase	Construction Noise Level (dBA) at LT1		Construction Noise Level (dBA) at LT2	
	L_{max}	$L_{eq\ 8\text{-}hr\ /\ 1\ hr}$	L_{max}	$L_{eq\ 8\text{-}hr\ /\ 1\ hr}$
(6) Electrical Substation (Switchyard) and Microwave Tower	51	47	61	57
(7) Solar Arrays, Underground, Battery Storage, O&M Building	57	53	66	63
Highest Noise Level Across All Phases	**57**	**53**	**66**	**63**

Notes: dBA = A weighted decibel; L_{max} = maximum sound level recorded during the measurement interval; L_{eq} = equivalent continuous sound level (time-averaged sound level).

Section 9.52.020(I) of the County's Noise Regulation Ordinance indicates that noise associated with any private construction activity located within 0.25 miles from an inhabited dwelling is considered exempt between the hours of 6:00 a.m. and 6:00 p.m. during the months of June through September, and between 7:00 a.m. and 6:00 p.m. during the months of October through May. Construction is scheduled to occur between 6:00 a.m. and 6:00 p.m., but limited nighttime work may be necessary during certain phases of construction/times of year/weather conditions to protect workers from high heat and/or other safety or risk avoidance factors. In the event that nighttime construction work is required and authorized, such work would be performed in accordance with the provisions described below. Neither the County's General Plan nor County Code establish numeric maximum acceptable construction source noise levels at potentially affected receptors. The closest residential receptors are not within 0.25 miles of the Project site. In addition, nighttime construction noise (generally between 6:00 p.m. and 6:00 a.m.) would only be audible at residences in the general vicinity of the Project construction site, if construction noise were greater than 3 dBA over ambient for any nighttime construction activities. Based upon results of the 24-hour noise measurement conducted near the closest residences (LT2 on Figure 3.14-1), the nighttime ambient average noise level is 60 dBA L_{eq} while the highest noise levels for construction activity occurring at the nearest portion of the Project site could range up to 63 dBA L_{eq} (no greater than 3 dBA L_{eq} higher). As such, nighttime construction activities audible at residences represented by LT2 would not be anticipated to result in noise levels that would exceed audible levels. However, to avoid disturbances to the public, routine construction activities would be limited from 6:00 p.m. to 6:00 a.m. when conducted within 2,500 feet of the residences to the east of the Project. The same nighttime restrictions should be observed during decommissioning activities at the end of Project life. Pre-operations testing of installed solar facility components would not involve heavy construction equipment, and therefore testing activities would not be subject to nighttime "construction" restrictions.

Based upon results of the 24-hour noise measurement conducted near the Lake Tamarisk Desert Resort (LT1), the nighttime ambient average noise level is 41 dBA while the highest noise levels for construction activity occurring at the nearest portion of the Project site (1.25 miles or 6,600 feet from the resort) could range up to 54 dBA L_{eq} (up to 13 dBA L_{eq} higher than nighttime ambient). From the furthest point of the Project construction zone to Lake Tamarisk Desert Resort (approximately 2.65 miles or 14,000 feet), construction noise levels at Lake Tamarisk Desert Resort could reach up to 47 dBA L_{eq} (up to 6 dBA L_{eq} higher than nighttime ambient). As such, routine noise-generating construction activities would be limited from 6:00 p.m. to 6:00 a.m. The same nighttime restrictions should be observed during decommissioning activities at the end of Project life. Again, pre-operations testing of installed solar facility components would not involve heavy construction equipment, and therefore testing activities would not be subject to these nighttime "construction" restrictions. Because it was a subsequent refinement in Project design, one minor construction task was not addressed in the detailed noise analysis: the addition of a secondary fiber optic communication line, required by Western Electricity Coordination Council (WECC) and

Southern California Edison (SCE) protection and reliability requirements, to the existing Desert Harvest Solar Project transmission line poles running between the Project and the Southern California Edison Red Bluff Substation. Line installation would involve a boom truck and cable truck, with very minimal noise generation. Three segments near the Lake Tamarisk Community would be installed underground, rather than affixed to existing poles, due to the need to maintain mandatory electrical line spacing between the fiber line and existing distribution infrastructure at those locations. The two closest segments include a length of approximately 1,000 feet extending southward from the southwest corner of the Lake Tamarisk Golf Course and a length of approximately 900 feet extending southward from the northwest corner of the Lake Tamarisk Golf Course. Trenching would be within the right-of-way for Kaiser Road, at not less than approximately 650 feet from the closest Lake Tamarisk residence. A third segment to be undergrounded would be within the right-of-way for Rice Road (SR 177), at a distance not closer than approximately 3,600 feet from the closest residence in Lake Tamarisk. Undergrounding the fiber optic line at each of these three locations would include up to two days of ground disturbance, followed by installation of the cable, and backfilling the trench. Necessary equipment is expected to include a backhoe, dump truck, flatbed truck, and concrete mixer truck (for slurry backfill). Under a worst-case scenario in which all of this equipment were operating simultaneously, the sound level from the construction activities at either segment along Kaiser Road at the nearest residence in the Lake Tamarisk community would be 51 dBA L_{eq}. Under a worst-case scenario in which all equipment is operating during undergrounding of the segment along SR 177, noise levels at the closest Lake Tamarisk residences would be no greater than 36 dBA L_{eq} These noise exposures at the Lake Tamarisk residences would be less than the existing daytime ambient noise level of 55 dBA $L_{eq,}$ and would result in a less than 3 dBA L_{eq} increase when added to the ambient levels (an increase that would not be noticeable in the outdoor environment). Installation of the underground portion of the fiber optic cable would be conducted between 6:00 a.m. and 6:00 p.m., because of residences within 0.25 miles of the work area.

Consequently, construction and decommissioning of the Project would not result in a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the County's General Plan or noise ordinance.

Because neither the County General Plan nor Code provides quantitative limits for daytime construction noise, this analysis applies a significance threshold of (1) a 20 dBA over baseline sound levels standard for short-term, daily noise; and (2) a construction-phase average sound level standard (e.g., the average sound level for a given phase of construction) of 10 dBA over baseline sound levels. As explained below, these thresholds were identified after conducting a review of regulatory agency documents and published scientific reports.

Baseline measurements identified exterior CNELs ranging from 51 to 67 dBA at Project-area residences. The FTA recommends that for areas already exposed to high ambient noise levels (e.g., 65 dBA CNEL or greater) ambient sound levels should not be increased by more than 10 dBA averaged over a 30-day period. Given the transitory nature of construction noise, and quasi-mobile characteristics of most construction equipment (e.g., dozers, graders, etc.), two ambient threshold increase limits have been identified to determine significant temporary increases in ambient noise levels: (1) a short-term (daily) 20 dBA threshold and (2) a long-term (overall construction phase) 10 dBA threshold. In addition, the EPA publication "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety" identifies a sustained level of 70 dBA $L_{eq(24)}$, as the limit beyond which sustained noise can contribute to hearing loss (which translates to a CNEL of 77 dBA). This threshold was used as the 24-hour limit for construction noise from the Project. As a consequence, the 20 dBA daily and 10 dBA construction-phase ambient increase thresholds are also capped at 77 dBA CNEL.

These thresholds have been identified as conservatively appropriate for assessing the significance of temporary ambient noise increases as a result of construction of this Project because:

- The noise ceiling of 77 dBA CNEL for both daily and construction-phase noise levels represents a level that, if exceeded on a sustained basis, could contribute to hearing loss and is less than the criterion employed by FTA on similar major infrastructure projects.
- A daily relative construction noise level limit of 20 dBA over baseline would be perceived as a quadrupling of sound level at the exterior of a noise-sensitive receptor and represents a level that would be significant on a daily basis for when construction is closest to a given receptor.
- An average construction-phase noise level increase of 10 dBA over baseline would be perceived as a doubling in noise level and, because it would last for a longer period of time, its exceedance would be considered significant.
- The noise environment in the vicinity of the Project frequently includes periodic noise from heavy truck traffic along SR-177, which is similar to heavy machinery used in construction.
- The temporary, 12- to 18-month construction period for the Project will occur in shorter-term phases across the entire Project site such that sensitive receptors will be exposed to higher noise levels for only a portion of the Project's construction period.

With regard to daytime construction noise levels, comparing the predicted highest average (L_{eq}) construction noise level from Table 3.14-14 at the closest residence (63 dBA L_{eq}) to the recorded daytime ambient noise level (65 dBA L_{eq}), the construction noise level would remain at least 2 dBA L_{eq} lower than the recorded daytime ambient noise level, and therefore would not cause an increase in ambient noise levels at the closest residence. For the receptors in the Lake Tamarisk Desert Resort area, the highest construction levels (up to 54 dBA L_{eq}) could exceed daytime ambient levels by 3 dBA L_{eq}, which would remain well below the identified significance threshold of a 20 dBA L_{eq} increase and is anticipated to be barely noticeable to residents. The installation of two of underground segments of fiber optic cable, while situated along the Kaiser Road frontage of the Lake Tamarisk community, and one at SR177 adjacent to the Lake Tamarisk Community, would result in average construction noise levels at the nearest Lake Tamarisk residences of no greater than 51 dBA L_{eq} (within the ranges shown in Table 3.14-14). The installation of the underground segment of fiber optic cable along SR 177 would result in noise levels at the nearest Lake Tamarisk residence of no greater than 36 dBA $L_{eq.}$ During construction, activity will overlap between phases, increasing the amount of equipment used and the resulting composite noise levels. The most intense sequentially adjacent phases (Phase I and Phase 2) have an individual L_{eq} of 61 and 62 at LT2, respectively; even if these phases occurred simultaneously, the composite construction noise level at LT2 would increase to only 65 dBA L_{eq}, which would equal the recorded daytime ambient noise level at LT2. The overlapping of other sequential phases would in each case produce composite sound levels less than 65 dBA L_{eq}. At LT1, sequential phases would sum to no more than 60 dBA, even if conducted simultaneously; this would represent only a 9 dBA L_{eq} increase over the recorded daytime ambient noise level, and thus would fall below the daily threshold of a 20 dBA L_{eq} increase or 10 dBA L_{eq} increase for the duration of any construction phase. These exterior noise levels would be attenuated by a minimum of 20 dBA inside the affected residences, with the result that daytime construction noise levels inside would not be expected to exceed 45 dBA L_{eq} and would therefore not interfere with conversations or other household noise-sensitive activities.

While the County has not adopted quantified construction noise level limits for construction activities conducted during daytime hours, FTA has adopted a guideline for daytime construction noise exposure at residential land uses. The FTA guideline is a maximum of 80 dBA L_{eq}, which is averaged over a typical

8-hour construction day. Assuming construction activity intensity is similar across the 8-hour construction day, the L_{eq} value for the FTA 8-hour averaging period would be equal to the $L_{eq\ 1hr}$ value for any given hour within the 8-hour construction window (hence the labeling of $L_{eq\ 8\text{-}hr\ /\ 1\ hr}$ in the right-hand column of Table 3.14-14). Construction noise levels are predicted to be no greater than an 8-hour average of 63 dBA L_{eq} at the closest residence to the Project and would therefore not exceed the FTA guidelines. With the potential for overlap of adjacent construction phase timing, the noise level from combined phases would not be anticipated to exceed an 8-hour average of 65 dBA L_{eq} at the closest residence to the Project. Consequently, construction noise impacts of the Project would be less than significant. Similarly, decommissioning activities at the end of Project life would be anticipated to result in temporary noise levels no greater than those quantified for construction, and therefore Project decommissioning activities would result in less-than-significant temporary noise impacts.

Construction and Decommissioning Traffic Noise

Transportation professionals quantified average daily trips on Kaiser Road north/west of SR-177 (Rice Road) and on SR-177 north and south of Ragsdale Road to which the Project could principally contribute trips, including scenarios for Existing, Existing Plus Project Construction Traffic, and Existing Plus Project Operational Traffic (Appendix G). Kaiser Road north of SR-177 currently carries approximately 360 ADT and SR-177 on the segment north of Ragsdale Road currently carries approximately 1,480 ADT. These ADT values were used to model existing traffic noise levels. The traffic counts were collected on October 4, 2022, during a time that the Oberon Renewable Energy Project may have been under construction; however, it is uncertain the number of trips that would have been generated by the Oberon Renewable Energy Project on the exact day of the traffic counts. The Oberon Renewable Energy Project is located southeast of the Project and uses SR-177 as the primary access route; therefore, it is feasible that the traffic counts may have included construction trips associated with the Oberon Renewable Energy Project. For comparison, the traffic study for the Oberon Renewable Energy Project (David Evans and Associates 2021) included counts conducted in 2020; the 2020 Oberon counts identified existing traffic levels of approximately 450 ADT on Kaiser Road north/west of SR-177 and 570 ADT for SR-177 north of Ragsdale Road. For the most conservative noise analysis, the lower ADT values between the two counts was used for each roadway: 360 ADT was used as the existing traffic level for Kaiser Road and 570 ADT was used as the existing traffic count for SR-177.

The peak day of construction for the Project would generate approximately 1,052 daily trips. The permanent O&M phase of the Project is expected to generate 10 daily trips. As a worst-case traffic noise exposure scenario for existing residences in the Project vicinity, it was assumed that all construction and operation trips would travel along Kaiser Road to access the site. In an abundance of caution and to model the worst-case noise scenarios due to the proximity of residences near SR-177, analysis was also performed for a scenario with all Project traffic routed on SR-177.

As described under Traffic Noise Methodology (above), acoustical calculations using standard noise modeling equations adapted from the FHWA noise prediction model were performed using the above ADT values for Existing Plus Project Construction Traffic. Table 3.14-15 presents the results of the construction/decommissioning traffic noise modeling; detailed information is provided in Appendix Q.

Table 3.14-15. Project Construction Traffic Noise Levels Compared to Existing Levels

Roadway	Existing dBA CNEL	Existing + Construction dBA CNEL	Increase From Construction Traffic	Significant Increase?	Sensitive Receptors Along Roadway?
Kaiser Road	55.8	61.7	5.9	No	Yes
SR-177	63.5	68.0	4.5	No	Yes

Source: Appendix Q.
Notes: dBA = A weighted decibel; CNEL = Community Noise Equivalent Level; SR = State Route.

As indicated in Table 3.14-15, assuming that all construction traffic accessed the site via Kaiser Road, construction traffic noise level increases on Kaiser Road attributable to the Project (5.9 dBA CNEL) would remain well below the construction noise significance level of a 10 dBA L_{eq} increase over ambient (the threshold to be applied across an entire phase of construction, which would be appropriate since construction traffic would occur along this roadway segment across each phase of construction). As also indicated in Table 3.14-15, assuming that all construction traffic accessed the Project site via SR-177, construction traffic noise level increases on SR-177 attributable to the Project 4.5 dBA CNEL) would also remain well below the construction noise significance level of a 10 dBA L_{eq} increase over ambient. Consequently, Project construction and decommissioning traffic noise impacts would be less than significant.

With respect to total construction noise exposure levels for a given receptor (on-site construction noise plus construction traffic noise), receptors in the Lake Tamarisk Desert Resort area could be exposed to on-site construction noise levels up to 3 dBA L_{eq} over ambient and construction traffic noise levels up to 5.9 dBA L_{eq} over ambient, for a combined total increase of 7.6 dBA L_{eq} over ambient. This increase would fall below the daily threshold of a 20 dBA L_{eq} increase or 10 dBA L_{eq} increase for the duration of any construction phase. The Lake Tamarisk Desert Resort receptors represent the worst-case combined construction noise level increases over ambient, other receptors would experience lesser increases. Consequently, Project construction and decommissioning noise levels combined with Project construction and decommissioning traffic noise levels would result in less-than-significant impacts.

Project Operational Noise – Traffic

As described under Traffic Noise Methodology (above), acoustical calculations using standard noise modeling equations adapted from the FHWA noise prediction model were performed using the above ADT values for Existing Plus Project Operational Traffic. Table 3.14-16 presents the results of the operational traffic noise modeling; detailed information is provided in Appendix Q.

Table 3.14-16. Project Operational Traffic Noise Levels Compared to Existing Levels

Roadway	Existing dBA CNEL	Existing + Operations dBA CNEL	Increase from Operations Traffic	Noticeable Increase?	Sensitive Receptors Along Roadway?
Kaiser Road	55.8	55.9	0.1	No	Yes
SR-177	63.5	63.6	0.1	No	Yes

Source: Appendix Q.
Notes: dBA = A weighted decibel; CNEL = Community Noise Equivalent Level; SR = State Route.

As indicated in Table 3.14-16, long-term operation of the Project would involve trip generation that would result in traffic noise level increases on Kaiser Road of 0.1 dBA CNEL (assuming all operational traffic accesses the Project via Kaiser Road), which would not be a change discernible by the human ear. As indicated in Table 3.14-16, assuming all Project operational trips used SR-177 to access the site, there would also be an increase of only 0.1 dBA CNEL along SR-177. Consequently, operational traffic noise impacts would be less than significant.

Project Operational Noise – On-site Stationary Sources

As described under Operational Noise Level Quantification Methodology (above), operational noise was quantified using a predictive noise model, with a receptor at the closest existing residence to the proposed facility (ST4), as well as receptors at each of the other three locations where ambient noise measurements were performed (ST1–ST3), for comparison of Project operational noise levels against ambient noise levels.

The noise prediction model was used to calculate the noise level across the entire grid that encompasses the Project site and adjacent areas (the total area depicted in Figure 3.14-3, Composite Operational Noise Levels, was evaluated with the noise prediction model, with coverage extending between approximately 0.5 miles and 1.5 miles from the Project site boundaries). Figure 3.14-3 graphically represents the noise model results, providing noise contours extending outward from the Project to illustrate the hourly noise level from operation of the Project. As illustrated on Figure 3.14-3, the 40–45 dBA L_{eq} contour is essentially contained within the Project site.

Tables 3.14-17 and 3.14-18 present the results of the operational noise modeling at ST1–ST4 and compare these modeled operational noise levels to recorded ambient noise levels and to limits contained in the County Zoning Ordinance. Detailed information for the operational noise modeling is provided in Appendix Q.

Table 3.14-17. Project Operational Noise Levels Compared to Ambient Levels

Receptor ID	Lowest Measured Existing Ambient (dBA L_{eq}) [1]	Predicted Operational Noise Level (dBA L_{eq})	Existing + Project (dBA L_{eq})	Increase (dBA L_{eq})
ST1/LT1	37	19	37	0
ST2	42	17	42	0
ST3	72	20	72	0
ST4/LT2	60	19	60	0

Source: Appendix Q.
Notes: dBA = A weighted decibel; L_{eq} = equivalent sound level.
[1] Represents lowest value at location for short-term or long-term measurement data.

As indicated in Table 3.14-17, the Project would not result in an increase in the ambient noise level at any of the locations where ambient noise monitoring was performed.

Table 3.14-18. Project Operational Noise Levels Compared to Zoning Ordinance Limits

Receptor ID	Predicted Operational Noise Level (dBA L_{eq})	Predicted Operational Noise Level (dBA CNEL)	Noise Ordinance Limit (dBA CNEL)	Limit Exceeded?
ST1/LT1	19	26	65	No
ST2	17	24		No
ST3	20	27		No
ST4/LT2	19	26		No

Source: Appendix Q.
Notes: dBA = A weighted decibel; L_{eq} = equivalent sound level; CNEL = Community Noise Equivalent Level.

As indicated in Table 3.14-18, even if all the facility equipment operated continuously over a 24-hour period, the predicted operational sound level at each of the ambient noise monitoring locations would fall well below the zoning ordinance limit of 65 dBA CNEL. Operational traffic noise increases for receptors located adjacent to Kaiser Road or SR-177 would be no greater than 0.1 dBA CNEL, and therefore combining operational traffic noise with stationary operational noise at worst-case receptors would not cause a discernible increase in

ambient noise levels at any receptor nor result in ambient noise levels that would exceed zoning ordinance limits. Consequently, operational noise impacts of the Project would be less than significant.

Threshold d: Would the project result in the generation of excessive ground-borne vibration or ground-borne noise levels?

LESS THAN SIGNIFICANT.

Construction and Decommissioning Vibration and Groundborne Noise

As discussed under Vibration Assessment Methodology (above), groundborne vibration generated from construction equipment would be attenuated to 0.2 in/sec PPV (the threshold for human annoyance) at a distance of no greater than 60 feet from construction activity. Consequently, for construction activities that are no closer than 60 feet from vibration-sensitive uses, including residences, construction-related vibration levels would remain below the significance threshold. As also discussed under Vibration Assessment Methodology, groundborne noise generated from construction equipment would be attenuated to 78 VdB (the daytime threshold for residential structure occupants) at a distance of no greater than 200 feet from construction activity. Consequently, for construction activities that are no closer than 200 feet from groundborne noise sensitive uses, including residences, construction-related groundborne noise levels would remain below the significance threshold. The closest existing vibration-sensitive use (a residence) is located approximately 2,115 feet from the Project construction boundary. The vibration level from a vibratory pile driver at 2,115 feet would be 0.0008 in/sec PPV, which is not perceptible by humans (Caltrans identifies the human threshold of perception for vibration to be 0.006 – 0.019 PPV); the groundborne noise level would be at 49 VdB (compared to an allowed vibration level of 72VdB in a hospital operating room [Caltrans 2020a]). Because decommissioning of the Project would represent the reverse of the construction process, involving the same or similar equipment and activities as Project construction, decommissioning of the Project would be anticipated to result in similar levels of groundborne vibration and noise. Therefore, Project construction- and decommissioning-related vibration levels and groundborne noise levels would be less than significant.

Operation Phase Vibration and Groundborne Noise

Vibration impacts associated with industrial and commercial facility operations are limited to large-scale equipment with rotational components or involving repeated impact or "striking" movements (e.g., pile driving, industrial grade compressors, stamping machines, printing presses), or with the maneuvering of heavy trucks or similar large-scale materials-transport equipment. The ongoing operation of the proposed solar facility would not involve rotational equipment, or impact equipment. One water truck delivery per week is anticipated for long-term operation of the Project; as referenced under Vibration Assessment Methodology, Table 3.14-12, potentially significant vibration impacts from a loaded truck operation would be limited to a distance of 15 feet, which would not extend beyond the road right-of-way for roads used by the water truck to access the site. Consequently, long-term operation of the Project would not be anticipated to generate perceptible vibration levels nor result in perceptible groundborne noise levels in vicinity structures; operational vibration and groundborne noise levels are therefore considered less than significant.

Cumulative Impacts

Geographic Scope. The geographic scope for cumulative analysis of noise and vibration is generally localized because noise and vibration attenuate with distance. Noise sources attributable to cumulative projects may cause adverse effects within approximately 1 mile of a project site, including truck routes, but the region of greatest influence is typically within 0.5 miles from the boundary of a project. Similarly,

vibration sources that typically occur from construction activity or vehicle traffic have a region of influence that is limited to approximately 200 feet.

Cumulative Impacts. Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario, list existing and reasonably foreseeable projects in the region that could contribute to noise and/or vibration levels via construction, operation, or decommissioning with a potential to result in a cumulative noise or vibration impact at existing noise-sensitive receptors in the region. Of the projects in Tables 3.1-1 and 3.1-2 only three are located within approximately 1 mile of the Sapphire Solar Project: Oberon Solar, Athos Solar, and Easley Renewable Energy. Operational noise levels from the Project at vicinity receptors would in all cases be 15 dBA L_{eq} below ambient levels and would therefore not result in an increase of ambient levels (the sum of two noise levels that vary by 10 dBA or greater is simply the larger of the two levels); as such, the Project's contribution to noise levels at vicinity receivers resulting from combined noise generation by Oberon Solar, Athos Solar, and Easley Renewable Energy would not be measurable in the environment. With respect to construction noise, on-site construction activities would be anticipated to increase daytime average noise levels by no more than 3 dBA L_{eq} at the worst-case receptor location (Lake Tamarisk Desert Resort). Assuming the Project and the Easley Renewable Energy Project (Oberon Solar and Athos Solar are currently in operations) would be under construction simultaneously, and the intensity of construction would be similar such that each resulted in a 3 dBA L_{eq} increase over ambient levels for Lake Tamarisk Desert Resort receptors, the combined construction noise increase would be approximately 6 dBA L_{eq} over ambient, which would fall below the 10 dBA L_{eq} threshold for any given construction phase. If construction noise increases at these receptors by the Easley Renewable Energy Project is greater than 3 dBA L_{eq}, the Project's relative contribution to the combined total increase would be no more than 3 dBA, which would not represent a substantial contribution to cumulative construction noise impacts. Therefore, the Project would not have a substantial contribution to cumulative impacts on noise and vibration levels associated with other projects in the sub-region.

3.14.4 Mitigation Measures

The Project would not result in a significant temporary or permanent increase in ambient noise levels, groundborne vibration, or groundborne noise; the Project would also not have a substantial contribution to any cumulatively significant noise, groundborne vibration, or groundborne noise impacts; therefore, no mitigation is required. The following recommended Mitigation Measures would further reduce potential non-significant impacts associated with noise that could result from the construction, operation, maintenance, and decommissioning of the Project:

MM N-1 **Construction Noise Equipment Controls**

- The use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only.
- Construction equipment will be muffled per manufacturer's specifications. Electrically powered equipment will be used instead of pneumatic- or internal combustion–powered equipment, where feasible.
- All stationary construction equipment will be placed in a manner so that emitted noise is directed away or blocked from sensitive receptors nearest the Project site where possible.

MM N-2 **Public Notification Process.** At least 15 days prior to the start of ground disturbance, the Project Applicant shall notify all residents within 1 mile of the Project site and the Linear

Facility Routes, by mail or by other effective means, of the commencement of Project construction. At the same time, the Project Applicant shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the Project. If the telephone is not staffed 24 hours a day, the Project Applicant shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the Project site during construction where it is visible to passersby. This telephone number shall be maintained until the Project has been operational for at least 1 year.

MM N-3 **Noise Complaint Process.** Throughout the construction and operation of the Project, the Project Applicant shall document, investigate, evaluate, and attempt to resolve all Project-related noise complaints.

3.14.5 References

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Figure 3.14-1 Ambient Noise Measurement Locations

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Figure 3.14-2 Site Plan

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Figure 3.14-3 Composite Operational Noise Levels

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3.15 Paleontological Resources

This section includes an analysis of the impacts to paleontological resources that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning of the proposed project (Project). The analysis in this section describes the applicable regulations, provides information on existing paleontological resources in and surrounding the Project site, identifies the criteria used for determining the significance of environmental impacts, describes the Project's potential impacts related to paleontological resources, and lists Mitigation Measures (MMs) that would be incorporated into the Project to avoid and or substantially lessen to the extent feasible potentially significant impacts.

3.15.1 Regulatory Framework

Federal Laws, Regulations, and Policies

The following federal regulations, laws, and policies may apply to the Linear Facility Routes associated with the Project, which are located on BLM-administered federal lands.

Paleontological Resources Preservation Act of 2009. The Paleontological Resources Preservation Act (PRPA) requires the Secretary of the Interior to manage and protect paleontological resources on federal land using scientific principles and expertise. The Omnibus Public Lands Management Act (OPLMA)-PRPA also requires federal agencies to develop appropriate plans for inventorying, monitoring, and the scientific and educational use of paleontological resources, in accordance with applicable agency laws, regulations, and policies. The OPLMA-PRPA is the authority for federal land-managing agencies for permits to collect paleontological resources and for the curation of these resources in an approved repository. It provides authority for the protection of significant paleontological resources on federal lands, including criminal and civil penalties for fossil theft and vandalism.

Antiquities Act of 1906. The Antiquities Act obligates federal agencies that manage public lands to preserve the scientific, commemorative, and cultural values of such sites. This act does not refer to paleontological resources specifically; however, the act does provide for the protection of "objects of antiquity" (understood to include paleontological resources) by various federal agencies not covered by the OPLMA-PRPA.

Federal Land Policy Management Act of 1976. The Federal Land Policy Management Act requires that public lands be managed such that the quality of their scientific values is protected. The act recognizes significant paleontological resources as scientific resources and requires federal agencies to manage public lands in a manner that protects scientific resource quality.

National Environmental Policy Act of 1969. The National Environmental Policy Act requires that important natural aspects of our national heritage be considered in determining the environmental consequences of major federal actions.

State Laws, Regulations, and Policies

California Public Resources Code, Section 5097.5. This code specifies that any unauthorized removal of paleontological remains is a misdemeanor.

California Penal Code Section 622.5. This code sets the penalties for damage to or removal of paleontological resources.

Local Laws, Regulations, and Policies

Riverside County General Plan. The following policies outlined in the Multipurpose Open Space Element of the Riverside County General Plan (County of Riverside 2015a) provide direction for paleontological resources:

- **Policy OS 19.6**. Whenever existing information indicates that a site proposed for development has high paleontological sensitivity as shown on Figure OS-8, a paleontological resource impact mitigation program (PRIMP) shall be filed with the 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, no direct mitigation is required unless a fossil is encountered during site development. Should a fossil be encountered, the 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, a report shall be filed with the 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 County Geologist shall direct them to a facility within Riverside County for their curation, including the Western Science Center in the City of Hemet.

3.15.2 Environmental Setting

The Project site is located within the Mojave Desert Geomorphic Province, near its western boundary, approximately 43 miles east of the boundary between the Colorado Desert and Transverse Ranges Geomorphic Provinces. This province is characterized by broad mountain ranges separated by expanses of desert with interior drainages and numerous playas. The Mojave province is sharply wedged between the Garlock fault and the San Andreas fault (CGS 2002). The Project site lies within the northwest–southeast-trending Chuckwalla Valley and is surrounded by Eagle Mountain to the west, Cox Comb Mountain to the north, Phelan Mountain to the east, and the Chuckwalla Mountains to the south. These mountains are generally composed of pre-Cretaceous metasedimentary rocks, Mesozoic granitic rocks, and Precambrian igneous and metamorphic rocks, with fans of Pleistocene non-marine rocks around their bases. These Pleistocene rocks spread out into the Chuckwalla Valley where they are buried by Quaternary alluvium and dune sands.

The Project site is located approximately 3 miles north of Desert Center and directly west of California State Route 177 on a broad, flat area within the northern portion of the Chuckwalla Valley.

Geology of the Project Site

According to surficial geologic mapping by Jennings (1967) at a scale of 1:250,000 and the geological time scale of Cohen et al. (2023), the Project site is underlain by recent Quaternary alluvium (mapped as Qal) (less than 4,200 years) and recent Quaternary sand dunes (mapped as Qs) (less than 4,200 years). The dune sands are active dunes generated in a desert playa setting and therefore are typically very fine to fine grained. The alluvium is deposited as recent alluvial fans eroded from the surrounding mountains and

is composed of silt, sand, and gravels. It is suggested that these recent surficial sediments are shallow within the area.

Generally, sediments of this young an age are not suitable for preserving fossils and are given a low sensitivity rating. However, some of the areas mapped as dune sand (Qs?) are in question as to their assignment to that unit. It should also be noted that older sediments likely underlie these younger sediments, as Pleistocene (11,700 years ago to 2.58 million years) non-marine sediments (Qc) are mapped at the surface to the northeast. These older sediments would have a high sensitivity rating.

Paleontological Resources

Paleontological Resource Classifications

BLM Fossil Yield Classification System. The Bureau of Land Management (BLM) released the Potential Fossil Yield Classification (PFYC) as a tool to rapidly assess the initial paleontological resource sensitivity of a given area. The BLM version of the PFYC was first released in 2007 (IM-2008-09) and was updated in 2016 (IM-2016-124) (BLM 2007, 2016). Frequently, the BLM's PFYC system is used for the paleontological assessment of non-federal areas that do not have a classification system of their own. The following categories are used to assess paleontological significance:

- **Class 1—Very Low.** Class 1 geologic units are those not likely to contain recognizable paleontological resources. Geologic units are igneous or metamorphic, excluding air-fall and reworked volcanic ash units. Geologic units are Precambrian in age. Management concerns for paleontological resources in Class 1 units are usually negligible or not applicable. Paleontological mitigation is unlikely to be necessary except in very rare or isolated circumstances that result in the unanticipated presence of paleontological resources, such as unmapped geology contained within a mapped geologic unit. An assignment of Class 1 normally does not trigger further analysis unless paleontological resources are known or found to exist. However, standard stipulations should be put in place prior to authorizing any land use action to accommodate an unanticipated discovery.
- **Class 2—Low.** Class 2 geologic units are those not likely to contain paleontological resources. Characteristics of Class 2 units include: field surveys have verified that significant paleontological resources are not present or are very rare; units are generally younger than 10,000 years before present; recent aeolian deposits; and/or sediments exhibit significant physical and chemical changes that make fossil preservation unlikely. Except where paleontological resources are known or found to exist, management concerns for paleontological resources are generally low and further assessment is usually unnecessary except in occasional or isolated circumstances. Paleontological mitigation is only necessary where paleontological resources are known or found to exist.
- **Class 3—Moderate**. Class 3 units are sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence. This classification includes units of moderate or infrequent occurrence of paleontological resources. Management considerations cover a broad range of options that may include record searches, pre-disturbance surveys, monitoring, mitigation, or avoidance. Surface-disturbing activities may require assessment by a qualified paleontologist to determine whether significant paleontological resources occur in the area of a proposed action, and whether the action could affect the paleontological resources.
- **Class 4—High.** Class 4 geologic units are those that are known to contain a high occurrence of paleontological resources. Significant paleontological resources have been documented in Class 4 units, but may vary in occurrence and predictability. Surface-disturbing activities may adversely affect paleontological resources. Rare or uncommon fossils, including nonvertebrate (such as soft body

preservation) or unusual plant fossils, may be present. The probability for impacting significant paleontological resources is moderate to high and is dependent on the proposed action. Mitigation plans must consider the nature of the proposed disturbance, such as removal or penetration of protective surface alluvium or soils, potential for future accelerated erosion, or increased ease of access that could result in looting. Detailed field assessment by a qualified paleontologist is normally required and on-site monitoring or spot-checking may be necessary during land-disturbing activities. In some cases, avoidance of known paleontological resources may be necessary.

- **Class 5—Very High**. Class 5 units are highly fossiliferous geologic units that consistently and predictably produce significant paleontological resources. Significant paleontological resources have been documented and occur consistently in Class 5 units. Paleontological resources are highly susceptible to adverse impacts from surface-disturbing activities. A field survey by a qualified paleontologist is almost always needed. Paleontological mitigation may be necessary before or during surface-disturbing activities. The probability for impacting significant paleontological resources is high. The area should be assessed prior to land tenure adjustments. Pre-work surveys are usually needed, and on-site monitoring may be necessary during land use activities. Avoidance or resource preservation through controlled access, designation of areas of avoidance, or special management designations should be considered.

County of Riverside Paleontological Sensitivity. The following sensitivity categories were developed for the County in the 2015 County of Riverside Environmental Impact Report No. 521 (County of Riverside 2015b, pp. 4.9-10 and 4.9-11). The County classification system is as follows:

- **Low Potential.** This classification is for lands which previous field surveys and documentation demonstrate have a low potential for containing significant paleontological resources subject to adverse impacts. It must be noted that surface geology, such as soils, are not always indicative of subsurface geology or the potential for paleontological resources. Actual sensitivity must be ultimately determined by both a records search and a field inspection by a paleontologist. This classification would be correlative to the BLM's PFYC Classes 1 and 2.
- **High Potential.** This classification is for sedimentary rock units with a high potential for containing significant nonrenewable paleontological resources. This includes rock units in which vertebrate or significant invertebrate fossils have been found or determined likely to be present. These units include, but are not limited to, sedimentary formations that contain significant nonrenewable paleontological resources anywhere within their geographical extent and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. High sensitivity includes not only the potential for yielding abundant vertebrate fossils, but also for production of a few significant fossils that may provide new and significant data. High sensitivity areas are mapped as either "High A" or "High B," according to the following criteria:
  - **High Sensitivity A (Ha).** This classification is based on geologic formations or mapped rock units that are known to contain or have the correct age and depositional conditions to contain significant paleontological resources.
  - **High Sensitivity B (Hb).** This classification is equivalent to High A but is based on the occurrence of fossils at a specified depth below the surface. This category indicates fossils that are likely to be encountered at or below 4 feet of depth and may be impacted during construction activities. This classification would be correlative to the BLM's PFYC Classes 3, 4, and 5.
- **Undetermined Potential.** This classification is for areas underlain by sedimentary rocks, for which literature or unpublished studies are not available, that have undetermined potential for containing significant paleontological resources. This classification would be correlative to the BLM's PFYC Class 3.

Previous Research and Projects

A review of previous research and nearby projects (within a 10-mile radius) was conducted through a literature review and records search for the Desert Center area and is presented here.

Literature and Records Search

In September 2022, a paleontological locality search was requested from the Western Science Center (WSC) in Hemet and from the Natural History Museum of Los Angeles County (NHMLA). The WSC had no previous localities recorded from within the Project site but had records of several localities within 3 miles of the Project site to the south and southwest that were found in similar or the same sediments as those mapped within the Project site. These fossils included vertebrate fossils from mammals, rodents, fish, and others (Appendix R, Paleontological Resource Survey Report). Likewise, the NHMLA also had no previous localities recorded from within the Project site, but had localities documented nearby (within a 10-mile radius) from the same or similar sediments as those that underlie the Project site. The NHMLA had three localities listed that contained fossils from mammals (camel, muskox, horse, bison, and rodents) and reptiles (snakes and lizards) (Appendix R).

A review of the literature shows that most development and research has taken place to the west, northwest, and east of the Project site. The Desert Center area is not well studied, likely due to the younger age of the sediments located in the area. However, reviews associated with the growing number of energy projects in the vicinity have shown that there are fossils in these younger-aged sediments and in the sediments that underlie them.

Projects within the Desert Center Area

The following paragraphs provide a brief synopsis of previous projects within the Desert Center area and Chuckwalla Valley where fossils were encountered during construction activities. The specifics for these projects can be found in the technical reports for each project. For the purposes of this environmental impact report, only the geologic units and fossils encountered are reported here.

Arica and Victory Pass Solar Projects. The surficial geologic units mapped within the footprint of these projects are Quaternary dune sand (Qs), Holocene alluvium (Qal), and Pleistocene non-marine sedimentary deposits (Qc). Portions of areas mapped as Holocene alluvium were surveyed during the original pedestrian survey, and the remainder were surveyed prior to construction activities during a supplemental survey (Chronicle Heritage 2024; Scherzer and DeBusk 2022). A total of 60 localities were encountered during pedestrian surveys, and a high number of fossils were recovered from the sand dunes on the Arica project. The fossils were often found in blowouts exposing older sediments underneath. The fossil specimens were dominated by rodents, rabbits, birds, reptiles, tortoises, and snakes (Aspen 2020). During the construction phase of the Arica Solar Project, a large fossil tortoise was recovered (Chronicle Heritage 2024).

Athos Renewable Energy Project. The surficial geologic units mapped within the footprint of this project are Quaternary dune sand (Qs), Holocene alluvium (Qal), Pleistocene-age surficial deposits (Qc), and Ocotillo Conglomerate (Qco). One non-significant fossil occurrence, an unknown vertebrate bone fragment, was reported during the pedestrian survey. No fossils were encountered during geotechnical trenching (Applied Earthworks 2018a, 2018b). The confidential locality data from paleontological monitoring during the construction phase has not been published or made publicly available. The lack of findings included here should be interpreted as absence of fossil data rather than absence of fossil localities.

Desert Sunlight Solar Farm Project. The surficial geologic units mapped within the footprint of this project are Quaternary dune sand (Qs), Holocene alluvium (Qal), and Quaternary older alluvium (Qoa). No PFYC assignments were made. During the pre-construction survey for the project, four non-significant localities were reported. During construction monitoring, 23 fossil localities were reported by paleontological monitors: 13 significant localities, which were collected, and 10 non-significant localities that were not collected. The fossil remains consisted of mammals (saber-toothed cat, bighorn sheep, camel, llama, kit fox, and numerous rodent taxa), birds, and reptiles (tortoise, snakes, and lizards). Another finding of this technical report was that the age of the fossils found (Pleistocene age) conflicted with the mapped geologic units (Holocene age) they were found in, which suggests the older nearby sediments should be expanded into the younger units mapped (Aron et al. 2015).

Desert Harvest Solar Project. The surficial geologic units mapped within the footprint of this project are Quaternary dune sand (Qs), Holocene alluvium (Qal), and Quaternary Lake deposits (Ql or Qp). No fossils were reported from the dune sands; mammal bone fragments and tortoise shell fragments were reported from the alluvium, while fossil rabbit, rodent, bird, and tortoise material were reported from the lake deposits. Additionally, two other geologic units were encountered: Quaternary non-marine deposits (Qc) and older Pleistocene non-marine deposits (Qco). All units were assigned high paleontological sensitivity (Roeder 2012). The confidential locality data from paleontological monitoring during the construction phase has not been published or made publicly available. The lack of findings included here should be interpreted as absence of fossil data rather than absence of fossil localities.

Palen Solar Power Project. The surficial geologic units mapped within the footprint of this project are Holocene alluvium (Qal) and Pleistocene intermediate-age alluvium (Qia). Five non-significant fossil occurrences were reported for this project and consisted of unknown vertebrate material and petrified wood (Debusk and Corsetti 2009). The confidential locality data from paleontological monitoring during the construction phase has not been published or made publicly available. The lack of findings included here should be interpreted as absence of fossil data rather than absence of fossil localities.

Field Survey

In October 2022, a pedestrian field survey of the Project site was conducted after a desktop review of the geology and scientific literature was concluded. The survey was covered by two paleontological surveyors walking 10- to 30-meter parallel transects that covered 90% of the Project site. The remaining 10% of the Project site was heavily vegetated and inaccessible to survey. During the survey, three non-significant fossil localities were reported from the surface: heavily weathered turtle fragments and a possible coprolite fragment.

Paleontological Sensitivity

According to the sensitivity map and sensitivity categories included in the Riverside County General Plan (County of Riverside 2015a) and summarized previously, the Project site consists of areas of both high and low sensitivity. Figure 6-7 of the survey report (Clifford and Debusk 2023) shows approximately the northern and eastern portions of the Project site as having High Sensitivity A (Ha) and the western and southern portions as having low sensitivity. This does not mean that older, higher sensitivity units do not occur at depth beneath the areas of low sensitivity.

All three localities were found within mapped Holocene alluvium (Qal) sediments. One locality was found in the low-sensitivity western portion of the Project, and the two other localities were found in the high-sensitivity northern and eastern portions of the Project site. This further suggests that the entire Project site is likely shallowly underlain by older sediments.

Due to the number of previously reported localities from other energy projects in the area and their geological observations, coupled with the locality search results from the WSC and NHMLA, as well as the mapped geology and pedestrian survey, there is a high likelihood that the Project site is shallowly underlain by older Pleistocene units. All these findings indicate high paleontological sensitivity for the entire Project site.

3.15.3 Impact Analysis

The Project's potential impacts to paleontological resources are evaluated in this section.

Methodology

Due to the variability within the fossil record, paleontologists cannot know either the quality or the quantity of fossils present in a geologic unit prior to natural erosion or human-caused exposure. Therefore, regardless of the presence of fossils at the surface, it is necessary to evaluate the geologic units, or units similar sedimentologically, that lie within or outside the Project site based on their known potential to produce scientifically significant fossil resources. The paleontological resources assessment is based on the paleontological sensitivity of the underlying geologic units as determined by the records search results from the WSC and the NHMLA, a review of relevant scientific literature and previous projects within a 10-mile radius of the Project site, and a pedestrian field survey of the Project site as detailed in the paleontology survey report (Clifford and Debusk 2023). Areas with high paleontological sensitivity are evaluated by the type of disturbance activities that would result in impacts to the paleontological resources.

Criteria for Determining Significance

Section VII of Appendix G to the State CEQA Guidelines addresses typical adverse effects to paleontological resources and includes the following threshold questions to evaluate a project's impacts to paleontological resources. Would the project:

a) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Significance thresholds are set forth in the County's Environmental Assessment Checklist, are derived from Section VII of Appendix G to the State CEQA Guidelines (listed above), and state that the Project would have a significant impact on paleontological resources if construction and/or operation of the Project would:

a) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Environmental Impacts

This section includes an examination of the Project's impacts to paleontological resources per the County's Environmental Assessment Checklist and Appendix G to the State CEQA Guidelines identified above.

Threshold a: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. A review of record search data, geological mapping, and geological and paleontological literature did not identify any existing paleontological resources within the Project site. No significant fossil localities were identified during the field survey of the Project site. Given the required excavation activities for the Project and the potential for paleontological resources to be encountered within the Project site, there is a potential for significant paleontological resources to be

unearthed during Project-related ground disturbance. Therefore, the Project would have the potential to indirectly destroy a unique paleontological resource or site or unique geologic feature.

MM PALEO-1 includes the preparation and implementation of a Paleontological Resources Impact Mitigation Program (PRIMP) outlining the details of how monitoring and mitigation would be conducted. The PRIMP will include monitoring for paleontological resources by a qualified paleontologist during all on-site rough grading and other significant ground-disturbing activities and will require that any significant paleontological resources uncovered during Project excavations would be properly analyzed and salvaged by the on-site paleontological monitor.

Incorporation of MM PALEO-1 described below would reduce impacts to paleontological resources to a less-than-significant level.

Cumulative Impacts

Geographic Scope. Paleontological cumulative impacts include the Project's impacts as well as those likely to occur as a result of other existing, proposed, and reasonably foreseeable projects (refer to Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario).

Cumulative Impacts. As discussed under Threshold "a," the Project would have the potential to indirectly destroy a unique paleontological resource or site or unique geologic feature during ground-disturbing activities. Potential cumulative impacts to paleontological resources would result from projects that combine to create an environment where fossils, exposed on the surface, are vulnerable to destruction by earthmoving equipment, looting by the public, and natural causes such as weathering and erosion. The majority of impacts to paleontological resources are site-specific and are therefore generally mitigated on a project-by-project basis. Cumulative projects would be required to assess impacts to paleontological resources through the environmental review (CEQA) process. Additionally, as needed, projects would incorporate individual mitigation for site-specific geological units present on each individual project site. Furthermore, the Project does not propose construction (including grading/excavation) or design features that could directly or indirectly contribute to an increase in a cumulative impact to paleontological resources, as the implementation of MM PALEO-1 provided in this analysis ensures any significant paleontological resources uncovered during Project excavations would be properly analyzed and salvaged by the on-site paleontological monitor. Therefore, the Project, in combination with the past, present, and reasonably foreseeable future projects adjacent to the Project, would result in less than cumulatively considerable impacts to paleontological resources.

3.15.4 Mitigation Measures

The following Mitigation Measure was developed to substantially lessen the potentially significant effects to paleontological resources that could result from the construction, operation, maintenance, and decommissioning of the Project.

MM PALEO-1 **Paleontological Resources Impact Mitigation Program.** Prior to commencement of any grading activity on site, the Applicant shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (2010) guidelines. The paleontologist shall prepare a Paleontological Resource Impact Mitigation Program for the Project. The Paleontological Resource Impact Mitigation Program shall be consistent with the Society of Vertebrate Paleontology (2010) guidelines and should outline requirements for pre-construction meeting attendance and worker environmental awareness training where monitoring is required within the Project site based on construction plans and/or geotechnical reports,

procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microvertebrate fossils), reporting, and collections management. The qualified paleontologist shall attend the pre-construction meeting and a qualified paleontological monitor shall be on site during all rough grading and other significant ground-disturbing activities (including augering) in previously undisturbed, fine-grained Quaternary alluvial deposits of Pleistocene age. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the qualified paleontological monitor will temporarily halt and/or divert ground disturbing activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot-radius buffer. Once documentation and collection of the find is completed, the qualified paleontological monitor will remove the rope and allow grading to recommence in the area of the find.

Paleontological specimens recovered from the Project site, if any, will be processed in the laboratory. Processing will include removal of any matrix so that the fossil can be identified to the lowest possible taxonomic level. The specimens will then be identified and cataloged into a paleontological database. Specimens will need to be prepared for curation prior to repository accessioning.

The qualified paleontologist will produce a Paleontological Monitoring Report describing the paleontological discoveries in their stratigraphic and geographic context and detailing the procedures for preparing, curating, and accessioning the paleontological collection into a suitable repository. The report of monitoring results shall be submitted to the lead agency. If no significant paleontological resources are recovered during Project ground-disturbing activities, a final Monitoring Memorandum shall be produced and submitted to the lead agency. Completion of the aforementioned tasks will finalize the paleontological mitigation process.

3.15.5 References

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3.16 Population and Housing

This section includes an analysis of the impacts on population and housing that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning of the proposed project (Project). The analysis in this section describes the applicable regulations, presents an overview of existing conditions that influence population and housing, identifies the criteria used for determining the significance of environmental impacts, and describes the Project's potential impacts to population and housing.

3.16.1 Regulatory Framework

Federal Laws, Regulations, and Policies

There are no federal plans or standards for population and housing that apply to the Project.

State Laws, Regulations, and Policies

Southern California Association of Governments (SCAG). SCAG determines regional housing needs and the share of the regional needs to be addressed by Riverside County and its constituent cities. SCAG is a Joint Powers Agency and is the designated Council of Governments (COG), Regional Transportation Planning Agency, and Metropolitan Planning Organization (MPO) for the six-county region of Los Angeles, Orange, Ventura, San Bernardino, Riverside, and Imperial counties. SCAG's Regional Comprehensive Plan and Guide and Regional Housing Needs Assessment (RHNA) are tools for coordinating regional planning and housing development strategies in southern California.

Regional Housing Needs Assessment. State Housing Law (California Government Code Article 10.6, Sections 65580–65590) mandates that local governments, through COGs, identify existing and future housing needs in a RHNA. The RHNA provides recommendations and guidelines to identify housing needs within counties and cities. The County of Riverside addresses its RHNA allocation through its General Plan Housing Element. The RHNA prepared by SCAG projects the unincorporated County's share of regional housing need for 2021–2029 as 40,647 homes. The County must identify sites to accommodate these units in the Housing Element (County of Riverside 2021).

Local Laws, Regulations, and Policies

Riverside County General Plan Housing Element. The 2021–2029 Housing Element identifies and establishes policies intended to fulfill the housing needs of existing and future residents in Riverside County. It establishes policies that guide County decision-making and set forth an action plan to implement its housing goals. The Housing Element includes a review of previous housing goals, an assessment of the effectiveness of those goals, and an assessment of housing needs. Additionally, the Housing Element includes an inventory of resources and constraints related to meeting housing needs in Riverside County; an analysis of affordable housing developments and programs intended to preserve such housing; community goals for the maintenance, preservation, improvement and development of housing; and a program that sets forth a 5-year schedule of actions that the County is undertaking or intends to undertake in implementing the policies set forth in the Housing Element (County of Riverside 2021).

3.16.2 Environmental Setting

Population

The Project is located in unincorporated Riverside County, which is the fourth most populous county in California (County of Riverside 2024). Table 3.16-1 provides a summary of the existing population, housing, and employment conditions for the City of Blythe, Desert Center (the closest census-designated place, located approximately 3 miles to the Project), Riverside County and San Bernardino County, California (counties from which the construction workforce would largely be recruited).

Table 3.16-1. Year 2020[1]–2023 Existing Conditions – Population, Housing, and Employment: City of Blythe, Desert Center, Riverside County, and San Bernardino County

		Housing Units		Employment	
Location	Population	Total Units	Vacancy Rate	Total Employed[2]	Unemployment Rate
City of Blythe	17,265	5,246	15%	15,015	8%
Desert Center	268	241	47.7%	48	0%
Riverside County	2,439,234	872,930	10.1%	1,106,600[3]	4.6%
San Bernardino County	2,182,056	747,011	8.8%	968,900[4]	4.5%

Source: DOF 2022; EDD 2023; U.S. Census Bureau 2021a, 2021b.

[1] The most recent available housing unit and employment data for the City of Blythe is from 2020.

[2] Accounts for population greater than 16 years of age and in Labor Force.

[3] Preliminary data for March 2023.

[4] Preliminary data for March 2023.

Population estimates, future projections, and average annual growth rates for Riverside County and San Bernardino County are summarized in Table 3.16-2. There were no data available for the City of Blythe and Desert Center regarding population projections; therefore, the City of Blythe has not been included in Table 3.16-2. Population estimates from 2020 through 2060 (based on the assumption that the Project's service life is approximately 39 years) are listed with an average annual growth number and rate for the communities within the study area. It should be noted that population estimates provided by the Department of Finance only extend to 2060 (DOF 2022). Therefore, only 40 years of population estimates are provided in Table 3.16-2; however, the available data are sufficient for the analysis as the Project's service life is approximately 39 years. The population growth in both Riverside County and San Bernardino County are expected to increase slowly during the next 40 years, with Riverside County projected to have a slightly higher annual growth rate than San Bernardino County.

Table 3.16-2. Population Estimates, Projections, and Average Annual Growth Rates[5]

	Riverside County	San Bernardino County
Population, 2020	2,449,299	2,184,112
Projected Population, 2025	2,593,906	2,273,291
Average Annual Growth Rate, 2020–2025	1.18%	0.82%
Projected Population, 2030	2,728,068	2,368,002
Average Annual Growth Rate, 2025–2030	1.03%	0.79%
Projected Population, 2035	2,840,775	2,456,262
Average Annual Growth Rate, 2030–2035	0.83%	0.79%
Projected Population, 2040	2,933,038	2,536,592
Average Annual Growth Rate, 2035–2040	0.65%	0.65%

Table 3.16-2. Population Estimates, Projections, and Average Annual Growth Rates[5]

	Riverside County	San Bernardino County
Projected Population, 2045	3,004,816	2,611,160
Average Annual Growth Rate, 2040–2045	0.49%	0.59%
Projected Population, 2050	3,059,095	2,681,796
Average Annual Growth Rate, 2045–2050	0.40%	0.54%
Projected Population, 2055	3,099,770	2,750,180
Average Annual Growth Rate, 2050–2055	0.27%	0.51%
Projected Population, 2060	3,129,833	2,818,707
Average Annual Growth Rate, 2055–2060	0.20 %	0.50%

Source: DOF 2022.

5 Projection estimates not available for the City of Blythe and Desert Center.

Housing

The current occupied and vacant housing estimates are presented in Table 3.16-1 above for communities and counties within the study area of Desert Center, Riverside County, and San Bernardino County. The residential vacancy rate, a translation of the number of unoccupied housing units on the market, is a good indicator of the balance between housing supply and demand in the community. The stated vacancy rate of Desert Center is approximately 47.7% of the total housing units vacant (U.S. Census Bureau 2021c). Riverside County, San Bernardino County, and the City of Blythe vacancy rates are approximately 10.1%, 8.8%, and 15% of the total housing units vacant respectively (DOF 2021).

3.16.3 Impact Analysis

Methodology

According to the regulations enforcing the California Environmental Quality Act (CEQA), economic or social aspects of a project may be mentioned in a CEQA document, but they are not to be considered major environmental effects. Yet, the significance of physical changes brought on by a project may be assessed using its economic or social implications. Public agencies should also take into account economic, social, and housing concerns in addition to technological and environmental factors when determining if improvements to a project are practical to lessen or prevent the substantial environmental effects.

The availability of the local workforce and the population in the area were studied to see whether the Project will stimulate population growth. Since Riverside County and San Bernardino County have the highest concentration of construction workers nearby the Project, it is anticipated that the majority of construction and eventual decommissioning personnel would come from those areas. Most of the projected workforce for construction and future decommissioning would look for housing closer to the Project's area (within 1 to 2 hours' driving distance) or look for temporary housing (like seasonal, recreational, or occasional use housing; long-term visitor areas; and hotel and motels) during the week.

Criteria for Determining Significance

Section XIV of Appendix G to the State CEQA Guidelines addresses typical adverse effects to population and housing and includes the following threshold questions to evaluate a project's impacts on population and housing. Would the project:

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

b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Significance thresholds are set forth in Riverside County's Environmental Assessment Checklist, are derived from Section XIV of Appendix G to the State CEQA Guidelines (listed above), and state that the proposed project would have a significant impact on population and housing if construction and/or operation of the project would:

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

b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere; or

c. Create a demand for additional housing, particularly housing affordable to households earning 80% or less of the County's median income.

Environmental Impacts

This section includes an examination of the Project's impacts to population and housing per Riverside County's Environmental Assessment Checklist and Appendix G of the State CEQA Guidelines identified above.

Threshold a: Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

LESS THAN SIGNIFICANT. The Project would not induce substantial unplanned population growth. Construction of the Project would occur within the span of approximately 12 to 18 months. The construction workforce would consist of approximately 150 employees with a maximum of approximately 250 employees during peak construction activities. The typical construction work schedule is expected to be Monday through Friday. However, to meet schedule demands or reduce impacts, it may be necessary to work early mornings, evenings, or nights and on weekends during certain construction phases. If construction work takes place outside these typical hours, activities would comply with Riverside County standards for construction noise levels (Ordinance 847) (County of Riverside 2007).

The construction workforce would likely be recruited from Riverside County and surrounding areas such as San Bernardino County. Riverside County has the largest concentration of construction workers close to the Project area. Many workers are likely to commute weekly or would otherwise temporarily relocate to the nearby Desert Center region while working on the Project.

As indicated in Table 3.16-1, vacancy rates in the study areas range from about 8.8% to 47.7%. The City of Blythe has approximately 788 vacant units (DOF 2021); the Desert Center area has approximately 115 vacant units (U.S. Census Bureau 2021c); Riverside County has approximately 88,165 vacant units (DOF 2021); and San Bernardino County has approximately 65,455 vacant units (DOF 2021). There are sufficient vacant housing units within the local communities to support the number of construction workers such that the Project's workforce would not induce substantial unplanned population growth. The Project would not cause a shortage in available housing for existing residents in these counties, would not trigger the need for new housing, and would not induce substantial permanent growth in regional population levels.

During operation of the Project, up to eight full-time and or part-time workers would be part of the regular operations and maintenance workforce that would perform daily visual inspections and minor repairs. These workers would also likely be from the nearby communities in Riverside and San Bernardino

Counties. The small number of operational staff would not substantially increase the population in surrounding communities. Intermittently, approximately up to eight workers may be on-call for additional repairs or replacement of equipment and panel cleaning. Overall, the operations and maintenance staff are not anticipated to increase the local population, and vacancy rates within the study area offer abundant available housing to employees who may relocate into the study area.

Future decommissioning of the Project, which is anticipated to occur after approximately 39 years or more of operation, would require dismantling of the wire, steel, and solar modules for recycling or disposal. A detailed Closure, Decommissioning, and Reclamation Plan has been developed for the Project to comply with public health and safety and environmental standards. It is anticipated that future decommissioning activities would require similar equipment and workforce as construction, but would be less intensive.

Other indirect factors are also taken into consideration in regard to a project's ability to substantially increase population growth. For instance, the removal of impediments to growth (e.g., constructing utility infrastructure and service systems in a previously undeveloped region) can induce growth. The Project is within close proximity to other existing, proposed, and under construction solar projects. The Project would result in construction of utility infrastructure; however, such infrastructure would consist of large-scale solar power facilities to be connected to the existing power grid rather than constructing new distribution-scale utility lines that could induce future population growth in the Project's vicinity, by facilitating additional residential or commercial uses. The Project would produce electricity that is intended to meet the demand for energy that is already projected based on growth in communities around California. The Project would include development of roads to provide access to the Project site. However, all new internal site roads would be private, and the construction of access roads would not extend into undeveloped areas where future population-inducing growth could occur. Therefore, the Project would not result in the extension of infrastructure or roads into an undeveloped area leading to substantial indirect population growth.

Overall, the impact on population growth and demand for additional housing from construction, operation and maintenance, and future decommissioning of the Project would be less than significant. Therefore, the Project would result in less-than-significant direct and indirect impacts.

Threshold b: Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

NO IMPACT. The Project site is located on approximately 1,192 acres, of which approximately 1,082 acres is located on private lands and approximately 110 acres is located on land administered by the United Bureau of Land Management. The solar site would be located on private lands. The Linear Facility Routes would be located on BLM-administered lands within a Development Focus Area for solar, wind, and geothermal projects as designated by the Desert Renewable Energy Conservation Plan (DRECP). The DRECP incentivizes the development of renewable solar energy facilities within the Project area, and as such, the Linear Facility Routes would be consistent with the intended uses of this area.

The Project is located approximately 1.28 miles from the community of Lake Tamarisk and there are no existing residences within the Project site. Accordingly, no people or housing would be displaced by the Project. Construction, operation, and maintenance, and decommissioning of the solar facilities would occur within the Project's boundaries and would not result in the displacement of any existing housing or people. No replacement housing would be required because of construction and operation of the solar facilities and the Linear Facility Routes. As such, no impact would occur.

Threshold c: Would the project create a demand for additional housing, particularly housing affordable to households earning 80% or less of the County's median income?

LESS THAN SIGNIFICANT. The Project would not create a significant demand for additional housing, including housing affordable to households earning 80% or less of the County's median income due to the temporary nature of Project construction activities and the nominal workforce required during Project operation.

As discussed in Threshold "a" above, the construction workforce would likely be recruited from Riverside and San Bernardino Counties. Riverside County has the largest concentration of construction workers close to the Project area. Many workers are likely to commute weekly or would otherwise temporarily relocate while working on the Project. It is anticipated that future decommissioning activities would require similar equipment and workforce as construction but would be substantially less intensive. The decommissioning workforce would likely be recruited from and or relocated to the same areas as construction personnel (Riverside and San Bernardino Counties).

As indicated in Table 3.16-1, vacancy rates in the study areas range from about 8.8% to 47.7%. There are sufficient vacant housing units within the local communities to support the number of construction workers such that the Projects' workforce would not create a demand for additional housing, particularly affordable housing.

During operation of the Project, up to eight full-time and or part-time workers would be part of the regular operations and maintenance workforce that would perform daily visual inspections and minor repairs. Likewise, these workers would also likely be from the nearby communities in Riverside and San Bernardino Counties and would not create a demand for additional housing, particularly affordable housing.

Additionally, and as discussed above in Section 3.16.1, Regulatory Framework, the County is a member of SCAG. The RHNA prepared by SCAG projects the unincorporated County's share of regional housing need for 2021–2029 as 40,647 homes. The County must identify sites to accommodate these units in the Housing Element. County policies recommend that growth be concentrated near or within existing urban and suburban areas or infill projects be prioritized, in order to maintain the rural and open space character of the County to the greatest extent possible, while reducing the cost of development as a result of additional infrastructure costs. The County identified the area of the County between the City of Indio and the City of Blythe as a low resource area for housing due to its limited access to public services, educational and employment opportunities, medical services, and other daily services (County of Riverside 2021). Therefore, the County does not rely on the Project site to meet its RHNA obligations. Moreover, it is anticipated that Project employees could be accommodated by the existing nearby communities, and/or by future residential uses to be constructed in accordance with the General Plan Land Use Element or the general plans of cities within the County, and that no additional housing, including housing affordable to households earning 80% or less of the County's median income, would be required to accommodate Project-related employees.

Furthermore, and as previously noted in Threshold "a," the Project would add renewable energy utility infrastructure to the existing power grid. The Project's infrastructure consists of large-scale solar power facilities to transfer the production of new power to the existing power grid, the Project would not construct new residential distribution-scale utility lines, the latter of which could induce future population growth in the Project's vicinity by facilitating additional residential or commercial uses. The Project would provide access roads to the Project site. However, all new internal site roads would be private, and the construction of access roads would not extend into undeveloped areas where future population-inducing

growth could occur. Therefore, any demand for additional housing associated with the Project would be less than significant.

Cumulative Impacts

Geographic Scope. The geographic scope of the cumulative impacts analysis includes populated areas within a 2-hour worker commute distance of the Project area, which would extend out into the rest of Riverside County and into San Bernardino County. This geographic scope would include all projects listed in Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario.

Cumulative Impacts. The Project would contribute to short-term cumulative impacts to population and housing during the construction and future decommissioning periods when construction schedules of multiple projects overlap and create a demand for workers that may not be met by the local labor force, thereby inducing in-migration of non-local labor and their households. Construction of the Project may overlap with construction of reasonably foreseeable future projects in the area, listed in Table 3.1-2. However, it is unlikely that all the foreseeable Project construction and future decommissioning of the Project would occur simultaneously with the Easley Renewable Energy Project and Lycan Solar Project because the projects are in different phases of planning, approval, and construction. Under the conservative assumption (worst-case scenario) that peak construction and future decommissioning periods would overlap, there would be an increased demand for temporary housing units in the cumulative area.

As discussed in Thresholds “a” and “c” above, the vacancy rates for housing range from 8.8% to 47.7% in the surrounding communities, and there are several temporary housing options available. There is an ample supply of housing units to accommodate workers drawn from outside the 2-hour commute area. Therefore, the Project’s incremental contribution to cumulative impacts regarding population and housing during construction and future decommissioning would not be cumulatively considerable or significant.

The Project would also contribute to an incremental cumulative population increase during operation and maintenance, and subsequent demand for housing. However, because the operational workforce is minor (up to eight operation and maintenance full-time/part-time personnel), the Project’s contribution to cumulative population and housing growth during operation would not be cumulatively considerable or significant. Even when multiple projects overlap, they do not result in a substantial increase in population in an area that would lead to demand for housing that exceeds available capacity.

As discussed under Threshold “b” above, construction, operation, maintenance, and decommissioning of the solar facilities would occur within the Project’s boundaries and would not result in the displacement of any existing housing or people. Therefore, the Project would not contribute to a cumulatively considerable or significant impact related to the displacement of people or housing.

Accordingly, the Project’s incremental contribution to the cumulative impacts to population and housing caused by other past, present, and probable future projects would not be cumulatively considerable or significant. Therefore, the Project would not result in cumulatively considerable impacts relative to population and housing.

3.16.4 Mitigation Measures

No mitigation would be required.

3.16.5 References

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3.17 Public Services

This section includes an analysis of the impacts on public services that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning of the proposed project (Project). The analysis in this section describes the applicable regulations, presents an overview of existing conditions that influence public services, identifies the criteria used for determining the significance of environmental impacts, describes the Project's potential impacts to public services, and lists Mitigation Measures (MMs) that would be incorporated into the Project to avoid and/or substantially lessen to the extent feasible potentially significant impacts.

3.17.1 Regulatory Framework

Federal Laws, Regulations, and Policies

There are no federal regulations, plans, or standards for public services that apply to the Project.

State Laws, Regulations, and Policies

There are no state laws for public services that apply to the Project. Provided below is a list of applicable state regulations and policies that apply to public services.

California Fire Code. The 2016 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes the minimum requirements consistent with nationally recognized best practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operation. Chapter 6 (Building Services and Systems) of the Code focuses on building systems and services as they relate to potential safety hazards and when and how they should be installed. Building services and systems are addressed include emergency and standby power systems, electrical equipment, wiring and hazards, and stationary storage battery systems. Chapter 33 (Fire Safety During Construction and Demolition) of the Code outlines general fire safety precautions to maintain required levels of fire protection, limit fire spread, establish the appropriate operation of equipment and promote prompt response to fire emergencies. Features regulated include fire protection systems, fire fighter access to the site and building, means of egress, hazardous materials storage and use and temporary heating equipment and other ignition sources.

2018 Strategic Fire Plan for California. The 2018 Strategic Fire Plan for California (CAL FIRE 2018) was developed in coordination with the State Board of Forestry and Fire Protection and the California Department of Forestry and Fire Protection (CAL FIRE) to reduce and prevent the impacts of fire in California. The plan reflects the values of CAL FIRE, including integrating fire protection, natural resource management, and fire prevention under a single mission on behalf of the state and local communities. The plan includes goals to improve CAL FIRE's core capabilities, enhance internal operations, ensure health and safety, and build a workforce by the year 2023. Objectives to reach these goals include but are not limited to the following: establishing a 30-year investment plan to maintain right-sized department staffing and resource deployment for mission delivery, implementing fuels reduction projects on at least 50,000 acres annually, increasing funding to keep pace with wildfire risks, and improving timeliness and frequency of communications. The objectives and goals outlined are applicable to the Riverside County Fire Department.

Local Laws, Regulations, and Policies

Riverside County Fire Department (RCFD) Technical Policy 15-002: RCFD Technical Policy 15-002, Solar Energy Generating System Fire Apparatus Access Roads, is a standard that was developed to assist with the design of fire apparatus access roads from public roadways to a solar energy generating system (i.e., solar facility). It addresses secondary access road requirements, which shall be determined by the County Fire Marshal given the specific conditions of any given solar project. Each solar energy generating system project will be reviewed on a case-by-case basis to determine secondary fire apparatus access requirements to facilitate emergency operations and to minimize the possibility of an access point being subject to congestion or obstruction during an emergency incident. This standard states that the secondary access road shall not be less than 20 feet in width and shall have an unobstructed vertical clearance of no less than 13.5 feet. The grade of the access road shall not exceed 15%. The access road shall be designed, constructed, and maintained to support the imposed load of fire apparatus weighing at least 75,000 pounds and constructed to Riverside County Transportation Standards. A registered engineer shall certify the design and construction of the access road based on the fire apparatus-imposed load of 75,000 pounds (Riverside County Fire Department Office of the Fire Marshal 2020).

Riverside County Fire Department Fire Protection and EMS Strategic Master Plan: The County has developed a strategic fire plan that details the department's goals and strategies for proactively coordinating fire facility, service and equipment needs for 2009-2029. It incorporates CalFire's management plan for several sub-zones within the county. The plan is aimed at ensuring that existing and future development maintains adequate service levels throughout Riverside County.

2022 Unit Strategic Fire Plan for Riverside County: The 2022 Unit Strategic Fire Plan for Riverside County was drafted by the CAL FIRE and the RCFD to reduce costs and prevent the impacts of fire in Riverside Unit (CAL FIRE/RCFD 2022). The plan includes all wildland, not only the State Responsibility Areas, to provide protection for residents and firefighters. In addition, the plan includes all wildland fire service providers including federal, state, local government, and private.

Ordinance No. 659 - Establishing a Development Impact Fee Program: This ordinance requires that new development pay Development Impact Fees to ensure that certain facility obligations are met in order to reasonably serve the subject development. Such obligations include the construction of new fire facilities. The ordinance ensures that there is a reasonable relationship between the use of the fees and the type of development projects on which the fees are imposed.

Ordinance No. 787 - Fire Code Standards: This ordinance adopts a variety of state codes, such as the Uniform Fire Code (UFC), established by the International Fire Code Institute, for implementation and enforcement at the county level. This ordinance also addresses implementation of the California Uniform Building Code, based on the International Conference of Building Officials. Both major Codes prescribe performance characteristics and materials to be used to achieve acceptable levels of fire protection.

Riverside County General Plan (General Plan). The purpose of the Fire Hazards section in the Safety Element of the General Plan is to eliminate earthquake-induced fire as a threat and to develop an integrated approach to minimizing the threat of wildland fires. To minimize the potential for disastrous loss of structures and life (human and wildlife), a coordinated program to manage development in the hazardous areas is included in the Safety Element (County of Riverside 2021a).

- **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.

The purpose of the Infrastructure, Public Services, and Service Provision section in the Land Use Element of the General Plan is to correlate the provision of infrastructure, public facilities, and services with the projected increase in population (County of Riverside 2021b).

- **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 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 10.1.** Require that new development contribute their fair share to fund infrastructure and public facilities such as police and fire facilities.

Desert Center Area Plan. The Desert Center Area Plan is an Area Plan within the Riverside General Plan. The Desert Center Area Plan contains policies that guide the physical development and land uses within the Desert Center Area which includes a major portion of the Chuckwalla Valley that is surrounded by the Eagle, Coxcomb, and Chuckwalla Mountains and Joshua Tree National Park. The plan includes a Hazards element as portions of the Desert Center Area may be subject to seismic occurrences and wildland fire. The following policy provides additional direction for relevant hazard issues specific to Desert Center.

- **Policy DCAP 11.1.** Protect life and property from wildfire hazards through adherence to the Fire Hazards section of the General Plan Safety Element (County of Riverside 2021c).

3.17.2 Environmental Setting

Fire Protection and Services

The RCFD is one of the largest regional fire service organizations in California (RCFD 2009). The County of Riverside contracts with the State of California (the California Department of Forestry and Fire Protection, also now known as "CalFire") for fire protection. Under CalFire "Riverside Operational Unit" management, the RCFD operates 94 fire stations in 17 battalions with about 230 pieces of equipment. Fifty-one of these stations, as well as three stations operated directly by CalFire, are located in the unincorporated portion of Riverside County. Within its service area, RCFD provides fire suppression, emergency medical, rescue and fire prevention services and is equipped to fight both urban and wildland emergency conditions. The State (CalFire) also has primary responsible responsibility for managing fires on lands designated "State Responsibility Areas" (SRAs). A variety of local fire agencies, for example city fire departments, have jurisdiction over "Local Responsibility Areas" (LRAs). And on federal lands, Federal Responsibility Areas (FRAs), federal agencies (BLM or U.S. Forest Service) are responsible (County of Riverside 2015).

The closest RCFD/CAL FIRE station to the Project's location in the Desert Center area is Fire Station No. 49–Lake Tamarisk Station (Station No. 49), located at 43880 Lake Tamarisk, Desert Center, approximately 1.45 miles southwest of the Project site (RCFD 2021). Station No. 49 is a one engine facility that operates 24 hours, 7 days a week. At any given time, the staff at Station 49 includes two paramedics and two company officers. Station 49 provides fire service to a service area over 3,000 square miles (from Desert Center extending to the City of Indio, City of Blythe, and San Bernardino County). The station receives on average 1-3 calls per day, primarily from traffic collisions (primarily medical aid assistance) on Interstate (I)-10. The station rarely receives calls from nearby solar farms. Due to the station's vast service area, the average response time is 30–45 minutes. Back up engines are available to cover additional calls as needed (Capitan E. Casey, pers. comm., 2023).

The Bureau of Land Management (BLM) Fire and Aviation Program also provides fire management, suppression, prevention, preparedness, and protection services at BLM's discretion (BLM 2020). Its field offices, such as the BLM Palm Springs–South Coast Field Office, may provide on-the-ground fire management and aviation services. BLM California also manages fire restrictions or temporary public land closures to reduce the risk of wildfires from human-related activities, such as campfires, off-road driving, equipment uses, and recreational target shooting (BLM 2020, 2023).

Police Protection and Sheriff Services

The Riverside County Sheriff's Department provides service to unincorporated Riverside County, which includes the Desert Center area (Riverside County Sheriff-Coroner 2023). The Colorado River Station is located at 260 North Spring Street, Blythe, California (Riverside County Sheriff-Coroner 2023), approximately 44.21 miles southeast of the Project site. The Colorado River Station receives an average of four to five calls per day with an average response time of 18 to 33 minutes. The main reasons for calls include assaults, burglaries, and theft. The station has three to four vehicles on patrol at any on time and two to three deputies and a sergeant on shift at any given time. The Blythe Police Department and California Highway Patrol (CHP) provide as needed backup and support (Lieutenant M. Moulton, pers. comm., 2023).

The California Highway Patrol (CHP) is the primary law enforcement agency for state highways and unincorporated county roadways. The Border Division CHP covers highways within the Desert Center area. The California Highway Patrol (660) Blythe Area serves the East Riverside County Region and is located at 430 South Broadway, Blythe, California, approximately 44.40 miles southeast of the Project site. This office patrols I-10, State Route 78, and U.S. Route 95, and 500 miles of unincorporated Riverside County roadways (CHP 2023).

Under the Federal Land Policy and Management Act of 1976, the Secretary of the Interior is authorized to set up a law enforcement body to enforce federal laws and regulations with respect to public lands and resources. BLM has a law enforcement program that protects public land from illegal activities such as unauthorized use of off-highway vehicles and vandalism of archaeological resources. BLM Rangers from BLM Law Enforcement and Security Region 1 are responsible for enforcing federal laws on federal land in the State of California (U.S. Department of the Interior 2023). The BLM has approximately 200 law enforcement rangers (uniformed officers) on staff who promote safety, security, and environmental protection of public lands, public land users, and employees (BLM 2024). The BLM's law enforcement program draws its authority from federal law under federal jurisdiction. BLM law enforcement officers enforce federal laws and do not have authority to enforce state laws without written authorization from a sheriff, other authorized state official, or state law.

Health Services

Palo Verde Hospital, the closest hospital to the Project site, is located at 250 North 1st Street, Blythe, California, which is approximately 44.36 miles east of the Project site. Its services include intensive care, radiology, and surgery. The hospital has 51 patient beds, consisting of 4 intensive care beds, 2 surgical suites, and in-patient and out-patient services (Palo Verde Hospital 2023).

Desert Regional Medical Center, the second closest hospital to the Project site, is located at 1150 North Indian Canyon Drive in Palm Springs, California, which is approximately 65.91 miles west of the Project site. Desert Regional Medical Center is the only medical center with a designated Level II trauma center in the Coachella Valley, serving eastern Riverside and San Bernardino Counties. The facility includes

tertiary acute care services, critical care services, and a skilled nursing unit, and is equipped with intensive care 385 beds (Desert Care Network 2023).

Parks

There are no recreation facilities, developments, or recreational attractions on the Project site. However, the surrounding area offers multiple outdoor recreational opportunities, including off-highway vehicle use, camping, rock hounding, and hiking. At its closest point, Joshua Tree National Park is located approximately 3.16 miles to the northwest of the Project site. This area of Joshua Tree National Park is only accessible by backpacking or hiking. Other nearby recreational areas include the Lake Tamarisk Desert Resort located approximately 1.28 miles southwest of the Project site, Desert Lily Preserve Area of Critical Environmental Concern located approximately 2 miles northeast of the Project site, Chuckwalla Special Recreation Management Area located approximately 3 miles south of the Project site, Alligator Rock Area of Critical Environmental Concern located approximately 3 miles south of the Project site, Chuckwalla Mountains Wilderness Area located approximately 5 miles south of the Project site, and the Edmund C. Jager Nature Sanctuary located approximately 6.15 miles southwest of the Project site. No local parks or Riverside County regional parks are in or near the Project (RCRPOSD 2022).

Refer to Section 3.18, Recreation, for more information about recreation resources in the Desert Center area. Table 3.18-1 includes a complete list of nearby recreational areas.

Schools

The Desert Center Unified School District serves the Desert Center area. The school closest to the Project is Eagle Mountain School, which serves kindergarten through eighth-grade students (CDE 2022) and is located approximately 7.5 miles northwest of the Project site.

Libraries

The Riverside County Library System serves all of Riverside County. The closest library branch to the Project is the Lake Tamarisk Branch located at 43880 Tamarisk Drive, Desert Center, California (Riverside County Library System 2023), approximately 1.45 miles southwest of the Project site.

3.17.3 Impact Analysis

Methodology

This section considers the potential impact to public services in unincorporated Riverside County during construction and operation of the Project. The methodology used to evaluate potential public services impacts includes the following: (1) evaluation of existing fire and law enforcement services and personnel for the fire and law enforcement stations serving the Project site; (2) determination of whether the existing fire and law enforcement services and personnel are capable of servicing the Project, in addition to the existing population and building stock; and (3) determining whether the Project's contribution to the future service population would cause fire or sheriff station(s) to operate beyond service capacity. The determination of the significance of the Project on fire protection and emergency medical and law enforcement protection services considers the level of services required by the Project and the ability of Riverside County Fire Department/CAL Fire and Riverside County Sheriff's Department to provide this level of service and maintain the regular level of service provided throughout the County, including whether the Project would require the construction of new or expansion of existing facilities.

Criteria for Determining Significance

Section XV of Appendix G to the State CEQA Guidelines addresses typical adverse effects to public services and includes the following threshold questions to evaluate a project's impacts on public services. Would the project:

a) 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:
   - Fire Protection;
   - Police Protection;
   - Schools;
   - Parks; and
   - Other Public Facilities?

Significance thresholds are set forth in Riverside County's Environmental Assessment Checklist, are derived from Section XV of Appendix G to the State CEQA Guidelines (listed above), and state that the Project would have a significant impact on public services if construction and/or operation of the project would:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities or 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 following public services:
   - Fire services;
   - Sheriff services;
   - Schools;
   - Libraries; and
   - Health services?

Environmental Impacts

This section includes an examination of the Project's impacts to public services per Riverside County's Environmental Assessment Checklist and Appendix G of the State CEQA Guidelines identified above.

Threshold a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or 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 following public services:

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Construction of the Project is anticipated to occur over an approximately 12- to 18-month period and would require an average construction-related on-site workforce of 150 individuals, with the peak workforce reaching approximately 250 individuals. As discussed in Section 3.16, Population and Housing, it is anticipated that the construction workforce would

be drawn from communities within Riverside and San Bernardino Counties and, as such, would not induce substantial permanent growth to the regional population levels.

After the construction phase, up to eight permanent staff could be on site at any time for ongoing facility maintenance and repairs. These eight operational personnel would also come from or move to local communities and would not contribute to a significant population increase.

Decommissioning is anticipated to require a workforce similar to or slightly less than that required for construction. The workforce would be drawn from communities within Riverside County and San Bernardino County and would not induce substantial permanent growth to the regional population level.

Fire Protection and Services

The Project is not located within a designated area of very high or high fire hazard, according to the Fire Hazard Severity Zones Map (CAL FIRE 2023). Vegetation in the Project area is sparse, thus fire risk from vegetation is minimal. In addition, no residential structures exist within the Project site, nor would any be constructed as part of the Project. Refer to Section 3.22 Wildfire for additional details regarding fire protection and services.

During construction and future decommissioning, workforce would be at its peak, which would create human presence-related hazards not currently present within the Project site, including a variety of equipment used that could create sparks or other potential fire hazards. Electrical sparks; combustion of fuel oil, hydraulic fluid, mineral oil, or insulating fluid at substations; or flammable liquids, explosions, and over-heated equipment pose fire risks. As noted in Section 2.5.4.3 Fire Safety of the Project Description, the Project would coordinate with BLM, RCFD, and other applicable jurisdictions as appropriate to define measures to control the risk of fire.

Increases in long-term demand for fire protection services typically are associated with substantial permanent increases in population. Typically, service demands per employee are less than service demands per resident. Nevertheless, the addition of construction personnel on the Project site could result in an increase in demand for fire protection services. While this would be an increase above existing levels, the presence of construction workers on the site would be temporary, as the construction period for the Project would last approximately 12 to 18 months. As discussed in Section 3.16, Population and Housing, it is anticipated that the construction workforce will be drawn from communities within Riverside and San Bernardino Counties, and therefore would not induce substantial growth even during the construction period such that the demand for fire protection services, aside from that mentioned for activities taking place at the construction project itself, would increase.

During the operation phase, up to eight permanent staff could be on the site at any one time for ongoing facility maintenance and repairs. These eight operation personnel would not contribute to a significant population increase, and would not result in increased demand for fire protection services, or require new or altered facilities.

Additionally, to ensure that impacts related to fire are reduced to the extent feasible, MM FIRE-5 (Fire Prevention and Safety Plan) is proposed and would require the Applicant to prepare and implement a Project specific Fire Prevention and Safety Plan (FPSP) during construction, operation, and decommissioning. The FPSP would comply with applicable BLM and Riverside County regulations and would be coordinated with the RCFD. The FPSP would contain notification procedures and emergency fire precautions consistent with the 2022 California Fire Code and Riverside County Fire Code. The FPSP would also include emergency fire precautions for vehicles and equipment, as well as fire prevention measures including training at “tailgate safety meetings” so temporary employees are equipped to handle fire threats.

During construction, water would be pumped directly from one or more on-site groundwater well(s), or from an off-site source into water trucks, or water may be stored in temporary tanks to help ensure availability of water for trucks and readily available for fire services (Appendix E, Water Supply Assessment). During operations, one or more aboveground water storage tank(s) would be installed adjacent to the operation and maintenance (O&M) facility if required by the RCFD. The tank(s) would be sized to meet the Riverside County requirements to supply sufficient fire suppression water during operations. Additional fire protection measures within the O&M building may include sprinkler and fire suppression systems. The systems would be compatible with the building's electrical system. Furthermore, there would be portable carbon dioxide fire extinguishers mounted at the power conversion system units.

Water use during decommissioning is expected to be similar to that for Project construction. Water for decommissioning would be obtained from an on-site groundwater well(s) or an off-site source.

Project facilities would be designed, constructed, and operated in accordance with applicable fire protection and other environmental, health, and safety requirements. Effective maintenance and monitoring programs are vital to productivity, as well as to fire protection, environmental protection, and worker protection. The Project would facilitate emergency access by installing a Knox-Box containing keys for the site on all gates and implementing fire safety features and plans for fire protection. The Project would need to coordinate directly with RCFD regarding fire access and secondary access as required by Technical Policy 15-002.

As previously noted in Section 3.17.2, the closest RCFD/CAL FIRE station to the Project site is Station No. 49, approximately 1.45 miles southwest of the Project site (RCFD 2021). The Station 49 service area covers over 3,000 square miles (from Desert Center to the City of Indio, City of Blythe, and San Bernardino County). The station receives on average 1–3 calls per day, primarily from traffic collisions (primarily medical aid assistance) on I-10. Due to the station's vast service area, the average response time is 30–45 minutes (Capitan E. Casey, pers. comm., 2023). However, given the Project site's proximity to Station 49 it is likely that the response times to the Project site would be less than the average response times. Additionally, Station 49 rarely receives calls from the nearby solar farms. It is expected that the number of calls from the Project to the Station would be similar to nearby solar farms (Capitan E. Casey, pers. comm., 2023). Therefore, the Project would not impact the response times of fire protection services.

Battery Energy Storage System

The Project would have an up to 117-MW battery energy storage system (BESS) configuration, housed within containers in a centralized location near the proposed on-site substation. The BESS would likely consist of containers housing batteries connected in strings and mounted on racks. Alternating current-coupled BESS design standards typically include lighting, monitoring equipment, cooling units, active exhaust venting, multiple fire detection units including gas/heat/smoke detectors, and fire suppression systems, which adequately address fire risk associated with the unit (California Fire Code 2022).

Under normal operations, BESS facilities do not contain, store, or generate hazardous materials in quantities that would represent a risk to off-site receptors. Potential hazards associated with battery energy storage systems are primarily associated with the possibility of thermal runaway (similar to overheating) occurring from a malfunctioning or damaged battery. Newer battery technologies have minimized the occurrence of thermal runaway through a system of protections including internal cell monitoring and partitioning; use of nonflammable chemicals; container design and features; ventilation, and air-conditioning systems; and inert gas fire suppression systems. The Project includes the implementation of MM FIRE-5 which includes the implementation of a FPSP that includes a discussion of

battery energy storage system risk reduction and fire prevention measures to further reduce the risk of fires. Fire prevention measures include requiring the use and storage of flammable materials away from areas containing ignition sources and the proper storage of chemicals that incompatible such that incompatible (i.e., chemically reactive) substances are separated appropriately.

The Project would use battery storage systems that are National Fire Protection Association 855 Code compliant, Underwriters Laboratories certified, and that include built-in failsafe and cooling systems designed to prevent thermal runaway and the spread of fire. Additionally, all stationary battery storage facilities in California are required to comply with Chapter 12 (Energy Systems) and particularly Section 1206 (Electrical Energy Storage Systems) of the California Fire Code, which has adopted internationally and federally accepted National Fire Protection Association 855 standards for the design, construction, installation, commissioning, and the O&M of stationary energy storage systems. In addition to compliance with the 2022 California Fire Code, the Project will also comply with all other local, state, and federal safety standards and regulations, including those of the RCFD.

Pursuant to the 2022 California Fire Code, all battery manufacturers will prove that a failed battery cell inside an enclosure will not cause a fire outside the system. The Project will meet the industry standards for adequate separations, cascading protections, and suppression systems to limit failure to a single battery cell. All battery storage systems will use an energy management system for 24/7 monitoring, management, and balancing of cell voltages, currents, and temperatures to ensure every cell remains within its safe operating parameters. The system will transmit an alarm signal if potentially hazardous temperatures or other conditions such as short circuits, over voltage or under voltage, are detected. This system will be capable of controlling and isolating individual cells from the rest of the system both remotely and manually.

The Project will utilize pre-engineered battery storage systems equipped with integrated operational management, fire, and safety systems, such as heating, ventilation, and air conditioning, gas, heat and smoke detection and alarms, and fire extinguishing and suppression systems. The 2022 California Fire Code contains safety standards for the system's construction (e.g., frame and enclosure, including mounting, supporting materials, barriers and more); the insulation, wiring, switches, transformers, spacing and grounding; safety standards for performance, such as tests for temperature, volatility, impact, overload of switches, and an impact drop test; and standards for manufacturing, ratings, markings, and instruction manuals. In addition to the many individual standards referenced, a Failure Mode and Effects Analysis must be performed for each system and requires a test to ensure safe compatibility of the system's parts.

The proposed batteries and containers would also include the following important monitoring and safety components:

- Modular battery racks designed for ease of maintenance
- Integrated heat and fire detection and suppression system
- Integrated air conditioning system
- Integrated battery management system

In summary, fire risk during construction, operation, and decommissioning of the Project would be minimal and further reduced with MM FIRE-5. Additionally, the Project would include emergency access and other safety features and plans for fire protection. As such, given the temporary nature of the Project's construction and decommissioning phases, the minimal number of permanent staff needed during operation, proximity to Station 49, expected average calls to Station 49, and incorporation of

MM FIRE-5, the Project would not significantly impact acceptable service ratios, response times or other performance objectives of RCFD. Therefore, the Project would result in less-than-significant impacts.

Police Protection and Sherriff Services

The temporary addition of construction and future decommissioning workers to the Project's area could increase demands on police services. Although an addition of up to 250 construction personnel could alter the current protection service ratio, because construction would not permanently increase the local population, no new or expanded law enforcement facilities or increased staff levels within the Project's regional or local study area would be required.

The Project would implement several security measures which would minimize the potential need for assistance from the Riverside County Sheriff's Department or CHP. Before construction commences, a permanent 8-foot-tall security fence topped with barbed wire would be erected surrounding the Project site, which would remain in place throughout construction, operation, and decommissioning of the Project. Locked entrance gate(s) located near the O&M facility would control ingress and egress of personnel and vehicles, and security may be enhanced with motion detectors, facility lighting, and cameras in key locations.

Furthermore, the Project site is located in a relatively remote location surrounded by undeveloped land, other solar energy developments, open space, and sparse rural residential development and it is unlikely to attract attention that would make Project facilities susceptible to crime.

Construction and future decommissioning activities would temporarily increase traffic volumes along Kaiser Road. However, with implementation of MM TRAF-1 (Construction Traffic Management Plan), the Project would impose strategies to reduce the number of trucks that would be generated during both the AM and PM peak hours. The additional volume of traffic associated with workers commuting to the site would be temporary and it is anticipated that personnel and equipment from the Riverside County Sheriff's Department or CHP would suffice to respond to incidents in the Project's area. In addition, construction and future decommissioning are not expected to adversely affect CHP's ability to patrol the highways. After the construction phase, up to eight permanent staff could be on the Project site at any one time for ongoing facility maintenance and minor repairs as needed. These eight operations personnel would not contribute to a significant population increase resulting in an indirect increase in demand for police protection services or require new or altered facilities.

Overall, construction, operation, and future decommissioning of the Project would not result in the need for new or physically altered police or sheriff protection facilities to maintain acceptable service ratios, response times, or other performance objectives. Impacts would be less than significant.

Schools

As described above and in Section 3.16 Population and Housing, there are sufficient vacant housing units within the nearby communities to support the number of construction and future decommissioning workers, and the Project would not trigger the need for new housing. Up to eight permanent staff could be on the site at any one time for ongoing facility maintenance and repairs. These eight operations personnel would likely come from the local labor force and would not contribute to a significant population increase. The Project would not displace populations or existing housing and would not necessitate construction of replacement housing elsewhere. Therefore, the temporary addition of construction and future decommissioning workers and operations personnel to the local population is not anticipated to increase school enrollment sufficiently to require new schools to be constructed or existing schools to be physically altered to allow for a Project-related increase in enrollment, where the physical

alteration of the school could result in adverse environmental impacts. Therefore, impacts would be less than significant.

Parks

As discussed above, there are no recreation facilities, developments, or recreational attractions on the Project site. However, the surrounding area offers multiple outdoor recreational opportunities, including off-highway vehicle use, camping, rock hounding, and hiking. The required construction and decommissioning workforce for the Project would be drawn from communities within Riverside and San Bernardino Counties. The in-migration and presence of construction workers in the area would be temporary. Some of the workforce may temporarily relocate near the Project site and would commute home on the weekends. The addition of up to eight O&M full-time/part-time personnel would also not substantially increase the population. Therefore, these workers would be unlikely to use the local recreation facilities to an extent that would require the provision of new or expanded park and recreational facilities within the regional or local study area. Although some workers may use recreational areas during construction, operation, and decommissioning, increased use would be minimal and/or temporary and would not contribute substantially to the physical deterioration of existing facilities. Therefore, impacts to park and recreational facilities would be less than significant. Parks and other recreational facilities are discussed in detail in Section 3.18.

Libraries

Consistent with the impacts previously discussed for other public facilities, although construction and future decommissioning of the Project would temporarily increase the number of people in the Desert Center area, it would not substantially increase the population. The addition of up to eight O&M full-time/part-time personnel would also not substantially increase the population. Therefore, new or expanded library facilities within the area would not be required, and impacts would be less than significant.

Health services

As discussed in Section 3.17.2 above, RCFD would provide first-responder emergency medical care. The nearest RCFD fire station is Station No. 49 (RCFD 2021). It is staffed full-time, 24 hours, 7 days a week. At any given time, the staff at Station 49 includes two paramedics and two company officers. Once a patient is transported, local area hospitals are available to provide emergency medical care. The station receives on average 1–3 calls per day, primarily from traffic collisions (primarily medical aid assistance) on I-10. The station rarely receives calls from nearby solar farms. Due to the station's vast service area, the average response time is 30–45 minutes. Backup engines are available to cover additional calls as needed (Capitan E. Casey, pers. comm., 2023).

During construction and future decommissioning, workforce would be at its peak, which would create human presence-related hazards not currently present within the Project site, including a variety of equipment used that could create sparks or other potential health and safety hazards. While approximately 150 to 250 construction and future decommissioning workers would be on site temporarily, 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, California. Injuries resulting in significant trauma would be treated at the Desert Regional Medical Center in Palm Springs, California.

During the operation phase, up to eight permanent staff could be on the site at any one time for ongoing facility maintenance and repairs. These eight operation personnel would not contribute to a significant

population increase, and would not cause increased demand for health services, or require new or altered facilities. Additionally, as previously noted, Station 49 rarely receives calls from nearby solar farms (Capitan E. Casey, pers. comm., 2023).

Project construction, operation, and future decommissioning would therefore not require new or physically altered hospital facilities or personnel or result in the increase in emergency responder staff levels within the Project's regional or local study area. Therefore, the Project would result in less-than-significant impacts.

Cumulative Impacts

Geographic Scope. The geographic scope of the cumulative impacts analysis includes the service areas of each of the providers serving the Project. This geographic scope would include all projects listed in Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario. The Project and other projects in the cumulative scenario, together, could increase demand for public services in eastern Riverside County due to increases in workers within the area during construction and future decommissioning, which could result in a significant cumulative impact to public services. The Project is not located within a designated area of very high or high fire hazard, according to the Fire Hazard Severity Zones Map (CAL FIRE 2023).

Fire Protection and Services

As discussed in Threshold "a" above, the greatest potential for fires and fire hazards would exist at the Project site during construction and decommissioning because the on-site workforce would be at its peak, which would create human presence-related hazards not currently present within the Project site, including a variety of equipment used that could create sparks or other potential fire hazards. Increases in long-term demand for fire protection services typically are associated with substantial permanent increases in population. The increase in construction personnel on the Project site would be temporary and would therefore not result in a permanent increase in the demand for fire protection services. During the operation phase, up to eight permanent staff could be on the site at any one time for ongoing facility maintenance and repairs. These eight operation personnel would not contribute to a significant population increase, and would not increase the demand for fire protection services, or require new or altered facilities. Additionally, to ensure that impacts related to fire are reduced to the extent feasible, MM FIRE-5 would be implemented.

Construction of reasonably foreseeable future projects, specifically the Easley Renewable Energy Project listed in Table 3.1-2, may overlap with construction of the Project. However, similar to the Project, future projects would have to comply with applicable federal, state, and local laws, policies, and regulations. This includes compliance with all California Fire Code requirements for emergency access, fire detection, suppression systems, and minimum fire flow. Code compliance would serve to reduce the susceptibility of new development to fires and, in turn, minimize demand for fire protection. Furthermore, the County also requires development applicants to pay established fire protection mitigation fees that are to be used by the RCFD to construct new fire protection facilities or provide facilities in lieu of the fee as approved by the RCFD. The County also requires all new structures constructed in unincorporated areas comply with the construction requirements of Riverside County Ordinance No. 787 and shall be provided with fire-retardant roofing material as described in the Uniform Building Code (County of Riverside 2015). Other cumulative projects in the RCFD service area would be reviewed for impacts on fire protection. Therefore, the Project, in conjunction with other planned and approved projects, would not have a cumulatively significant impact related to fire protection.

Police Protection and Sherriff Services

As discussed in Threshold "a" above, the Project would implement several security measures which would minimize the potential need for assistance from the Riverside County Sheriff's Department or CHP. Furthermore, the Project and foreseeable future projects would be located in a relatively remote location surrounded by undeveloped land, other solar energy developments, open space, and sparse rural residential development and are unlikely to attract attention that would make the facilities susceptible to crime that would be cumulatively considerable.

Schools

As discussed in Threshold "a" above, and in Section 3.16 Population and Housing, there are sufficient vacant housing units within the nearby communities to support the number of temporary construction and future decommissioning workers. Additionally, the addition of up to eight O&M full-time/part-time personnel would not substantially increase the population. Therefore, the Project would not trigger the need for new housing. The Project is not anticipated to increase school enrollment sufficiently to require new schools to be constructed or existing schools to be physically altered to allow for a Project-related increase in enrollment, where the physical alteration of the school could result in adverse environmental impacts. Due to the temporary nature of construction and decommissioning activities, it is unlikely that a substantial number of workers and their families for any of the cumulative projects would permanently relocate to the area. Any potential impacts to schools from the minimal number of operations personnel for future solar projects would be negligible, especially as the workers would be sourced from nearby local communities and would likely commute. Accordingly, the Project would not contribute to a cumulatively considerable or significant impact to schools.

Parks

As discussed in Threshold "a" above, there are no recreation facilities, developments, or recreational attractions on the Project site. However, the surrounding area offers multiple outdoor recreational opportunities, including off-highway vehicle use, camping, rock hounding, and hiking. The required temporary construction and decommissioning workforce for the Project would be drawn from communities within Riverside and San Bernardino Counties. The addition of up to eight O&M full-time/part-time personnel would also not substantially increase the population. Therefore, these workers would be unlikely to use the local recreation facilities to an extent that would require the provision of new or expanded park and recreational facilities within the regional or local study area. Although some workers may use recreational areas during construction, operation, and decommissioning, increased use would be minimal and/or temporary and would not contribute substantially to the physical deterioration of existing facilities. Therefore, the Project would result in less-than-significant impacts. Parks and other recreational facilities are discussed in detail in Section 3.18.

***Health Services*.** As discussed in Threshold "a" above, Station No. 49 would provide first-responder emergency medical care. The station receives on average 1–3 calls per day, primarily from traffic collisions (primarily medical aid assistance) on I-10. The station rarely receives calls from nearby solar farms. It is expected that number of calls from the Project to the Station would be similar to nearby solar farms (Capitan E. Casey, pers. comm., 2023).

During construction and future decommissioning, workforce would be at its peak, which would create human presence-related hazards not currently present within the Project site, including a variety of equipment used that could create sparks or other potential health and safety hazards. While approximately 150 to 250 construction and future decommissioning workers would be on site temporarily, 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, California. Injuries resulting in significant trauma would be treated at the Desert Regional Medical Center in Palm Springs, California.

During the operation phase, up to eight permanent staff could be on the site at any one time for ongoing facility maintenance and repairs. These eight operation personnel would not contribute to a significant population increase, resulting in an increase to the demand for health services, or require new or altered facilities.

The combined effects of the increased cumulative demand for fire, law enforcement, and emergency medical services from the cumulative projects within the geographic scope of analysis would not result in a cumulatively significant impact. The implementation of the MM FIRE-5 would further reduce the Project's demand for fire, law enforcement, and emergency medical services from construction, operation, and decommissioning such that the residual demand would not exceed established service ratios or require new or physically altered facilities, the construction of which could cause environmental impacts. The incremental effects of the Project from up to eight O&M full-time/part-time personnel would also not be cumulatively considerable because the very low number of workers would also not lead to the exceedance of established service ratios or require new or physically altered facilities.

Cumulative O&M-related impacts to public services, including fire protection, law enforcement, and health services, 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 from operation of the Project.

At the end of the operational period of the Project (approximately 39 years), the Project's components would be decommissioned and dismantled, and the site would be reclaimed per applicable regulations in effect at the time of decommissioning. Similar to construction (but to a lesser degree), the greatest potential need for public services would be associated with fire hazards. However, with implementation of MM FIRE-5 (Fire Prevention and Safety Plan), fire hazards would be reduced. 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 conjunction with past, existing, and future projects listed in Tables 3.1-1 and 3.1-2 in Section 3.1.2 are not anticipated to cause a demand on public services such that the construction of new, or physical alteration of existing, facilities would be required. The Project could increase the population in the region temporarily during the construction and future decommissioning phases, which are short-term, and therefore would not require construction of new or physical alteration of existing facilities. Accordingly, the Project's incremental contribution to the cumulative effects on fire, police, and health services caused by other past, present, and probable future projects would not be cumulatively considerable or significant. Therefore, the Project would not result in cumulatively considerable impacts relative to fire, police, and health services.

Parks, Schools, and Libraries. Due to the temporary nature of construction and decommissioning activities, it is unlikely that a substantial number of workers and their families for any of the cumulative projects would permanently relocate to the area. Any potential impacts to parks, schools, and public libraries from the minimal number of operations personnel for each solar project would be negligible, especially as the workers would be sourced from nearby local communities and would likely commute. There would be no significant cumulative impact to parks, schools, or public libraries. Accordingly, the Project's incremental contribution to the cumulative effects on parks, schools, or public libraries caused by other past, present, and probable future projects would not be cumulatively considerable or significant.

3.17.4 Mitigation Measures

The following Mitigation Measures were developed to substantially lessen impacts expected to result from the construction, operation, maintenance, and decommissioning of the Project.

MM FIRE-5 Fire Prevention and Safety Plan. *See full text in Section 3.22, Wildfire.*

MM TRAF-1 Construction Traffic Management Plan. *See full text in Section 3.19, Transportation.*

3.17.5 References

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3.18 Recreation

This section includes an analysis of the impacts to recreational facilities within 20 miles that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning of the proposed project (Project). The analysis in this section describes the applicable regulations, presents an overview of existing conditions that influence recreation, identifies the criteria used for determining the significance of environmental impacts, and describes the Project's potential impacts related to recreational facilities.

3.18.1 Regulatory Framework

Federal Laws, Regulations, and Policies

Wilderness Act of 1964. The Wilderness Act created the National Wilderness Preservation System, which was signed in 1964. This act defined wilderness as "an area of undeveloped Federal land retaining its primeval character and influence without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions" (NPS 2023).

Designated wilderness is the highest level of conservation protection for federal lands, and the only way to designate or change the status of wilderness areas is through Congress. These areas are designated on existing federal public lands. Congress has directed four federal land management agencies to manage wilderness areas to preserve and, if possible, restore their wilderness characteristics. The agencies relevant to this Project are the Bureau of Land Management (BLM) and the National Park Service.

Permanent roads and commercial enterprises are prohibited by the Wilderness Act, except for commercial services that may provide for recreational or other purposes of the Wilderness Act. Wilderness areas generally do not allow motorized equipment, motor vehicles, mechanical transport, temporary roads, permanent structures, or installation (with exceptions in Alaska). The Wilderness Act acknowledges the need to provide for human health and safety, protect private property, control insect infestations, and fight fires within these areas, although wilderness areas are to be primarily affected by the forces of nature. Wilderness areas are managed under the direction of the Wilderness Act, subsequent legislation (such as the Alaska National Interest Lands Conservation Act), and agency policy.

Federal Land Policy and Management Act. The Federal Land Policy and Management Act (FLPMA) recognizes the value of public lands. The FLPMA provides for outdoor recreation for future generations by including the multiple use/sustained yield framework for management. The recreational resources contained within the California desert environment are acknowledged in Title VI of the FLPMA, Designated Management Areas, California Desert Conservation Area, which also directs BLM to develop a multiple use and sustained yield management plan to conserve the desert's resources, particularly recreational use.

National Trails System Act of 1968. The National Trails System Act of 1968 (Public Law 90-543), was passed by Congress in 1968 to create a series of trails "to promote the preservation of, public access to, travel within, and enjoyment and appreciation of the open-air, outdoor areas and historic resources of the Nation." The Act authorized National Scenic Trails, as well as National Recreation Trails and the connecting-and-side trails. National Scenic Trails are established to provide access to "spectacular natural beauty and to allow the pursuit of healthy outdoor recreation" and "extended trails so located as to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass."

California Desert Conservation Area Plan. The California Desert Conservation Area (CDCA) Plan establishes goals for management of recreation in the California desert (BLM 1999). Recreational opportunities in the study area are framed by the CDCA Plan. To provide for the use of public lands and the resources of the CDCA, the goals include recreational uses, in a manner that enhances wherever possible and does not diminish the environmental, cultural, and aesthetic values of the desert (BLM 1999). The goals of the Recreation Element of the CDCA Plan are to (BLM 1999):

- 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 education 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
- Provide for off-road vehicle recreation use where appropriate in conformance with FLPMA, Section 601, and Executive Orders 11644 and 11989

Within the CDCA Plan, the Motorized-Vehicle Access Element includes a system and a set of rules that provide for constrained motor-vehicle access to the CDCA while protecting desert resources (BLM 1999). When the CDCA Plan was first adopted, BLM designated a network of motorized vehicle routes on public lands within the northern and eastern Mojave Desert, including routes for north-central and southern portions of the CDCA. The conditions of the special-status species and other natural and cultural resources are maintained because BLM manages off-highway vehicle (OHV) use. Since the CDCA Plan was adopted, BLM updated its travel and transportation management policies and regulations. Under the current BLM regulations, opening and closing a specific route is an implementation decision. Refer to the BLM Land Use Planning Handbook, Appendix C (BLM 2005), which states: "At the implementation phase of the plan, establish a process to identify specific areas, roads and/or trails that will be available for public use, and specify limitations placed on use." The most recent Travel and Transportation Handbook, H-8342 (BLM 2012), was published in 2012 and provides more guidance for preparing, amending, revising, maintaining, implementing, monitoring, and evaluating BLM land use and travel management plans.

The following amendments to the CDCA Plan are incorporated into the plan through their Records of Decision:

- **Northern and Eastern Colorado Desert Coordinated Management Plan.** The Northern and Eastern Colorado Desert Coordinated Management (NECO) Plan provided for management of California desert recreation in El Centro, Blythe, and Needles, as well as cities in the Coachella Valley (BLM 2002). According to the NECO Plan, all OHV routes outside OHV areas are designated as open, closed, or limited. Included in the NECO Plan is a route inventory for OHVs and designated routes of travel. Approximately 95% of existing routes remained available for vehicle access under the plan. Special Recreation Permits are issued as a means to control visitor use, protect recreational and natural resources, and provide for the health and safety of visitors; these permits are authorizations that allow for recreation uses of the public lands and related waters.

- **Desert Renewable Energy Conservation Plan.** In September 2016, the Record of Decision was signed for the Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment. The DRECP Land Use Plan Amendment designated Special Recreation Management Areas (SRMAs) and Extensive Recreation Management Areas within the California desert (BLM 2016). The DRECP included additional conservation management actions for recreation that dictate the types of activities allowed near certain recreational features.

Off-Road Vehicles (43 Code of Federal Regulations Section 8340 et seq.). This regulation establishes criteria for designating public lands as open, limited, or closed to the use of OHVs and for establishing controls governing the use and operation of OHVs in such areas, while protecting resources, promoting safety, and minimizing user conflicts. Recreation use under Title VI "includes the use, where appropriate, of off-road recreational vehicles."

State Laws, Regulations, and Policies

There are no state regulations, plans, or standards for recreation that apply to the Project.

Local Laws, Regulations, and Policies

Riverside County General Plan. The purpose of the Infrastructure, Public Facilities, and Service Provision section of the Land Use Element of the Riverside County General Plan is to corelate the provision of infrastructure, public facilities, and services with the increase in population. The following policy included in the Land Use Element generally applies to the Project with regards to recreational facilities (County of Riverside 2021a).

- **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. (Action Items 3, 4, 32, 74)

The purpose of the Open Space, Parks, and Recreation section of the Multipurpose Open Space Element of the Riverside County General Plan is to protect and preserve open spaces areas from urbanization. The following policy included in the Multipurpose Open Space Element relates to the Project with regards to agricultural resources (County of Riverside 2015).

- **Policy OS 20.1.** Preserve and maintain open space that protects County environmental and other nonrenewable resources and maximizes public health and safety in areas where significant environmental hazards and resources exist.

Desert Center Area Plan. The purpose of the Desert Center Policy Area policies in the Desert Center Area Plan is to strengthen and/or preserve the identify, character, and features unique to the Desert Center area. The following policy relates to the Project with regards to the recreational facilities within the Desert Center Policy Area (County of Riverside 2021b).

- **Policy DCAP 2.2.** Provide for a balance of housing, services and employment uses such that Desert Center and Lake Tamarisk residents and/or employees can access necessary services or facilities such as health care, housing, employment, food, recreational, and entertainment facilities.

The purpose of the Multipurpose Open Space section in the Desert Center Area Plan is to continue the pattern of clustered development that already exists. The following policy included in the Multipurpose Open Space section generally applies to the Project with regards to recreational facilities, particularly open space (County of Riverside 2021b).

- **Policy DCAP 9.1.** Encourage clustering of development for the preservation of contiguous open space.

3.18.2 Environmental Setting

The Project (solar site) would be located on privately owned land in Riverside County (County), with Linear Facility Routes (LFRs), located on BLM-administered land. The solar site is surrounded primarily by BLM land, with some scattered rural residences and farms located on adjacent private lands. The solar site is proposed on previously disturbed, fallow, former agricultural lands, while the LFRs are proposed within a BLM Development Focus Area (DFA) defined in the DRECP. The Project would be located near several existing solar and battery energy storage projects.

The BLM land in the vicinity of the Project has been used for a variety of uses including solar and BESS development projects and a range of recreational activities such as hiking, horseback riding, rockhounding, noncompetitive vehicle touring, and other events on designated open routes of travel. Additionally, the Project is approximately 3 miles from Joshua Tree National Park.

The study area 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.

Regional Recreation Areas and Opportunities

The Project is located within the Chuckwalla Valley of incorporated Riverside County. Desert Center has no community parks and there are no regional or state parks within the Chuckwalla Valley. Lake Tamarisk, located approximately 1.28 miles south of the Project site, is a community for active seniors with single family homes, duplexes, and mobile homes situated around the lake and includes a 9-hole golf course (County of Riverside 2021b). The Chuckwalla Valley Raceway is located approximately 1.3 miles east of the Project site and is on approximately 1,000+ acres of land. The raceway is approximately 2.68 miles long, for beginners to experienced racers, and includes on-site amenities such as a paddock for recreational vehicle dry camping, 40 cabins for rent, recreational vehicle storage, and an airstrip (Chuckwalla Valley Raceway 2023).

BLM administers a range of recreational resources near the Project site, including wilderness areas, campgrounds, long-term visitor areas, trails, interpretive sites, and a network of extensive backcountry approved travel and OHV routes as shown in Figure 3.18-1, Recreation Areas, and Figure 3.18-2, BLM Open Routes. Dispersed[1] recreation opportunities are provided by Areas of Critical Environmental Concern (ACECs), wilderness areas, and SRMAs. In general, summer in the California desert is considered too hot for recreation, so the use of BLM lands for recreation is typically concentrated in the cooler months from September to May.

BLM use data for October 2019 to September 2020[2] shows that the area of the Palm Springs Field Office that includes eastern Riverside County received 318,700 visits for an estimated 402,000+ visitor days[3] (BLM 2020). Of these visits, the bulk of them (303,588 visits) were for dispersed use. The two special use

1 Use of public lands away from developed recreation facilities.

2 Portions of the recreational use data for 2019 to 2020 presented here were taken during the COVID-19 pandemic, which is not considered a typical year. To have a better understanding of the overall recreational use trends of eastern Riverside County, Corn Springs Campground, and Desert Lily Preserve, use data from the previous 5 years were reviewed. While these data varied from year to year, the general visit numbers for eastern Riverside and dispersed recreation were similar for most years except 2015–2016, when substantially more visits were recorded (BLM 2020). Visits to the Corn Springs Campground and Desert Lily Preserve were similar for all years except 2015–2016, when the Desert Lily Preserve received substantially fewer visits compared with the most recent year (BLM 2020). Because the overall use trend shown in the previous 5 years did not vary widely, the most recent data are presented in this report.

3 A visitor day is defined a visit lasting no longer than 12 hours (BLM n.d.).

areas nearest to the Project, Corn Springs Campground and Desert Lily Preserve ACEC, received fewer visits: 3,850 visits and 2,392 visits, respectively (BLM 2020).

Recreation areas within 20 miles of the Project site are identified in Table 3.18-1 and discussed below (see Figure 3.18-1).

Table 3.18-1. Recreation Areas and Special Designations with Recreational Opportunities

Recreation Area Name	Direction from Project Site	Distance from Project Site (miles)	Approximate Size (acres)	Status
	BLM Recreation Areas			
Chuckwalla ACEC	West	1	649,005	DRECP
Desert Lily Preserve ACEC	Northeast	2	2,052	DRECP
Chuckwalla SRMA	South	3	247,374	SRMA
Palen-Ford ACEC	Northeast	3	54,896	DRECP
Alligator Rock ACEC	South	3.5	7,741	DRECP
Chuckwalla Mountains Wilderness	South	5	101,618	Designated
Edmund C. Jaeger Nature Sanctuary	Southwest	6	89	SRMA
Chuckwalla to Chemehuevi Tortoise Linkage ACEC	Northeast	7	372,991	DRECP
Corn Springs ACEC	South	8	2,462	DRECP
Palen Dry Lake ACEC	Southeast	10	3,626	Designated
Palen-McCoy Wilderness	East	10	246,622	Designated
Orocopia Mountains Wilderness	Southwest	16	59,781	Designated
Meccacopia SRMA	Southwest	16	125,302	SRMA
Upper McCoy ACEC	Northeast	20	40,627	DRECP
	NPS Recreation Areas			
Joshua Tree Wilderness	Northeast	3	594,502	Designated
Joshua Tree National Park	Northwest	3.16	1,017,750	DRECP

Notes: ACEC = Area of Critical Environmental Concern; DRECP = Desert Renewable Energy Conservation Plan; NPS = National Park Service; N/A = not applicable; BLM = Bureau of Land Management; SRMA = Special Recreation Management Area.

Joshua Tree National Park

The National Park Service administers Joshua Tree National Park. The park is located approximately 3.16 miles northwest of the Project site and covers more than 1 million acres. The main activities that occur at the park are hiking, mountain biking, and rock climbing, with some wildflower viewing and bird watching. Camping is available at nine campgrounds. The eastern part of the park contains dark skies and has applied to be designated as a "dark sky park" by the International Dark Sky Association. This resource attracts stargazers and amateur astronomers. The park is open year-round, with peak visitation occurring in April. More than 3 million people visited the park in 2021 (NPS 2022; BLM 2017, 2022).

Wilderness Areas

Recreation on wilderness lands is limited by the Wilderness Act to activities 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 for recreational purposes are not permitted in wilderness (916 USC 1133[c]). BLM regulated such recreation on lands within its jurisdiction in accordance with the policies, procedures and technologies set forth in Title 43 Code of Federal Regulations Section 6300, BLM Manual 6340 (Management of Designated Wilderness Areas), and BLM's Principles for Wilderness Management in the California Desert.

Four wilderness areas are located within 20 miles of the Project site. The four areas are the Chuckwalla Mountains Wilderness, Palen-McCoy Wilderness, Joshua Tree Wilderness, and Orocopia Mountains Wilderness. They are all managed by BLM, except for the Joshua Tree Wilderness, which is managed by the National Park Service (NPS) (Wilderness Connect 2023). These areas have no developed trails, parking/ trailheads, or other visitor use facilities, and are generally steep, rugged mountains with no permanent natural water sources, thus limiting extensive hiking or backpacking opportunities. BLM has no visitor use counts for these areas, but usage in these types of wilderness areas, given their remote nature and lack of resources, is typically very light. There are five nearby mountain peaks within wilderness that are occasionally used by the Desert Peaks Section of the Sierra Club's Angeles Chapter (Desert Peaks 2020). None of the peaks directly overlook the Project site, but depending on the elevation and topography, the site may be visible from certain peaks.

Areas of Critical Environmental Concern

There are eight ACECs located near the Project site (refer to Table 3.18-1). The individual ACEC Management Plans and the resources and values for which the ACECs were established determine the recreation activities allowed in each ACEC. Most ACECs allow low-intensity recreation that is compatible with protection of the relevant values. Corn Springs ACEC, Palen-Ford ACEC, Chuckwalla ACEC, and Alligator Rock ACEC all overlap with the Chuckwalla SRMA, which allows limited OHV use on designated routes (BLM 2017).

Special Recreation Management Areas

An SRMA is a BLM-administrated area where existing or proposed recreation opportunities and recreation setting characteristics are recognized for their unique value importance, or distinctiveness, especially compared to other areas used for recreation. SRMAs are units of public land identified for directing available recreation funding and personnel to specific, structured recreation opportunities. They are managed to protect and enhance a targeted set of activities, experiences, benefits, and desired recreation.

An SRMA provides opportunities for area residents, visitors, and commercial recreation providers to engage in motorized and non-motorized recreation activities that are compatible with recovery efforts for the desert tortoise and other resource values. The primary activities for the Chuckwalla SRMA are motorized recreation touring and other recreational activities that rely on motorized vehicles to access public lands.

Off-Highway Vehicle Routes

OHV access is among the most important recreation issues in the desert according to both the CDCA Plan and the NECO Plan Amendment. The recreation program ensures that access routes necessary for recreation enjoyment are provided. In the County, there are no designated open OHV areas, so OHV use on BLM land must occur on designated limited routes, as discussed below.

In limited areas, motorized vehicle access is allowed only on certain routes, including roads, ways, trails, and washes. BLM defines OHV routes as follows (BLM 2018):

- **Open Route:** Access by all types of motorized vehicles is allowed generally without restriction.
- **Limited Route:** Access by motorized vehicle is allowed, subject to limitations on the number and types of vehicles allowed and restrictions on time or season and speed limits.
- **Closed Route:** Access by motorized vehicles is prohibited except for certain official, emergency, or otherwise authorized vehicles.

If a route provides access to other routes, historical sites, or recreational areas, it is considered to have high significance. These routes may connect to areas that provide backcountry driving, photography, camping, rock hounding, and hiking opportunities in eastern Riverside County. The Desert Center region has several OHV open routes. BLM has no means to determine an accurate user count for these routes.

While OHV routes cannot be officially designated on private land, some routes cross private land and may be used by recreationists via unauthorized travel. The following three BLM Routes cross the Project site (Figure 3.18-2); 660535, 660332, and 660546. Approximately 5,690 feet of BLM Route 660535, 5,364 feet of BLM Route 660322, and approximately 12,099 feet of BLM Route 660546 cross the Project site; however, they are not included in County planning documentation.

Washes Open Zones

Under the NECO Plan, all MUC M (multiple-use class – moderate) washes are open unless an area is specifically designated as limited or closed. When used in this context, a "wash" is defined by BLM as having physical features that make passage of motorized vehicles possible, which establishes the navigability, in addition to having running or standing water or being dry. Use of washes within these "washes open zones" is restricted to areas considered navigable. In these open zones, navigable washes are designated open as a class, and they are not individually designated unless they are a specific route (see Section 3.16 in BLM 2018).

The washes in the Project area have not been inventoried or analyzed by BLM to determine their navigability. The county does not have Wash Open Zone designations.

3.18.3 Impact Analysis

Methodology

This section analyzes potential effects of the Project related to recreation and assesses the impacts to known recreational uses. The CDCA Plan, as amended by the NECO Plan and DRECP, which includes a detailed inventory and designation of open routes for motorized vehicle use, was reviewed to determine impacts to open routes (DRECP 2016).

Criteria for Determining Significance

Section XVI of Appendix G to the State CEQA Guidelines addresses typical adverse effects to parks and recreation and includes the following threshold questions to evaluate a project's impacts to recreational resources. Would the project:

a) 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?

b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Significance thresholds are set forth in the County's Environmental Assessment Checklist, are derived from Section XVI of Appendix G to the State CEQA Guidelines (listed above), and state that the proposed Project would have a significant impact on recreational resources if the Project or any Project-related component would:

a) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

b) Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

c) Be located within a Community Service Area (CSA) or recreation and park district with a Community Parks and Recreation Plan (Quimby fees).

d) Include the construction or expansion of a trail system.

Environmental Impacts

This section includes an examination of the Project's impacts to recreational resources per the County's Environmental Assessment Checklist and Appendix G to the State CEQA Guidelines identified above. Note that as both the County and the CEQA checklist have the same text for Thresholds a and b, although they are inverted; the following will utilize the County alpha numeric formatting.

Threshold a: Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

LESS THAN SIGNIFICANT. Implementation of the Project would result in a solar site and Linear Facility Routes. The Project does not include new recreational facilities.

As noted above in Section 3.18.2, Environmental Setting, the Project is located within the Chuckwalla Valley of incorporated Riverside County. Desert Center has no community parks and there are no regional or state parks within the Chuckwalla Valley. The Project (specifically the solar site) would be located within private land designated as Open Space, Rural, and Agriculture and zoned A-1-20 Light Agriculture and W-2-10 Controlled Development Areas (Figure 2-5, Riverside County Zoning). Private lands within the Project site formerly supported mixed-use agricultural practices, including cultivating jojoba and aquaculture farming. The solar site is not used for recreation. The temporary presence of workers from the construction and decommissioning phase of the Project would not result in the need to construct or expand recreational facilities. During construction, on-site personnel would be anticipated to peak at 250 workers though the average daily work force is anticipated to be approximately 150. It is anticipated that the majority of construction employees would come from respective population centers, such as Riverside County and or San Bernardino County, and report to the designated construction staging yards prior to the beginning of each workday. Construction staff not drawn from the local labor pool would be expected to stay in local hotels in Blythe or other local communities. Due to the size of the project's labor pool, it is anticipated the number of on-site construction workers utilizing the local recreational facilities would be limited as workers would return home to their respective communities at the end of the workday. For those workers that would stay in local hotels, the potential impact of temporary workers for approximately 12 to 18 months during construction would be considered less-than-significant.

Additionally, during operation of the Project, permanent employees would be limited to up to eight full-time and or part-time staff and even adding their demand to use to local recreational facilities would not require the construction or expansion of recreational facilities. Therefore, implementation of the

Project would not require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment and impacts would be less-than-significant.

Blocking or Precluding Recreation Activities. As previously noted above in Section 3.18.2, BLM Routes 660535, 660332 and 660546 traverse the solar site. These OHV routes are currently not legally permissible for public recreation as they traverse private land. BLM Route 660322 is within a Southern California Edison (SCE) transmission right-of-way and the Project would not interfere with the use of this utility access road; 660322 would not be closed. Implementation of the Project would prevent the illegal use of the route across private lands from being available for the portions of BLM Routes 660535 and 660546 that traverse the Project site. Because DC 660535 does not provide unique opportunities in the region and is not a legally permissible route of travel, it would not need to be replaced by a new route. Therefore, the impact of closing a portion of DC 660535 would be less than significant.

Disturbance of Recreational Users. Indirect effects to recreational users of nearby specially designated lands (including Joshua Tree National Park) could occur due to the distant views of the construction activities, and decommissioning activities, noise, and dust. While the Joshua Tree National Park receives hundreds of thousands of visitors annually, the location closest to the Project is less heavily visited because of the difficulties in reaching that area. The pattern of recreational camping in dispersed areas is unlikely to change. Due to the nature of dispersed camping there is nearly unlimited site selection.

Recreational users could be impacted by fugitive dust and additional vehicle movement associated with the Project. During operation, the visual change at the site could affect visitors seeking experiences in a natural setting. However, the solar site is collocated near other renewable energy projects and supporting infrastructure. A Photometric Lighting Study was prepared for the Project (included in Appendix D, Visual Resources Report) that determined that night lighting for the Project is expected to be minimal. The Project's specification for lighting fixtures would prevent direct light pollution from illuminating the night sky, which would further minimize the effect of the Project on the nighttime sky and star gazing by recreationist. Any lamps/lights required would be shielded and directed downward (Appendix D). Light levels associated with on-site lighting sources would be zero (0) footcandles at the Project site boundary and on-site lighting would not directly illuminate any adjacent properties or nearby roadways. Overall, these impacts could affect users' perception of solitude, naturalness, and unconfined recreation. While the Project could result in indirect impacts to recreation, it is not anticipated that the Project would result in a significant change in use of the nearby recreational facilities that would increase the use of other regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. The impact would be less than significant. The associated indirect impacts are addressed in Sections 3.2 Aesthetics, 3.4 Air Quality, 3.14 Noise, and 3.19 Transportation.

Changing the Character of Recreation Areas. As previously noted, the solar site would be located on private lands that are not used for recreation. The Linear Facility Routes would be located on 41 acres of BLM-administered lands, located within a DFA for solar, wind, and geothermal projects as designated by the DRECP. The DFA is not designated for recreational use. Therefore, the Project (solar site and Linear Facility Routes) would not result in direct loss of recreation, nor would they result in impacts to designated OHV routes. While the Project would introduce solar panels and a new 230-kilovolt generation tie line, the associated construction would be of short duration and the associated visual change would be like those created by existing, nearby solar facilities (Appendix D). The fiber optic lines associated communications for and protection with either be underground or strung on the same poles as the 20kV electrical lines therefore they would not add any additional visual impacts to recreationalists along these routes. Impacts to recreation due to the gen-tie line would be less than significant.

During operation, the presence of the Project (solar site and Linear Facility Routes) would present a visual change that could indirectly affect recreationists who are seeking a natural setting, in particular from BLM wilderness areas or the Joshua Tree National Park. Since 2010, the Desert Center area has been transformed by large active solar projects (Desert Sunlight, Palen, Desert Harvest, Arica Solar, Victory Pass Solar, and Athos Solar) and transmission infrastructure (refer to Figure 2-3, Proposed Project and Other Solar Projects), modifying the view from recreation areas in the vicinity. While the Project would add to the existing development in the area, the Project would not include recreational facilities or require the construction or expansion of recreational facilities. Impacts would be less than significant.

Threshold b: Would the Project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

LESS THAN SIGNIFICANT. As discussed under Threshold "a" above, there are no neighborhood or regional parks 1 mile of the Project site. BLM Recreation Areas and NPS Recreation Areas are in close vicinity to the Project site. Distances are provided above in Table 3.18-1.

The Project would not induce substantial unplanned population growth that would markedly increase the use of existing neighborhood or regional parks or other recreational facilities. Construction of the Project would occur within the span of approximately 12 to 18 months. The construction workforce would consist of approximately 150 employees with a maximum of approximately 250 employees during peak construction activities. Construction workers are expected to travel to the site from various population centers, primarily from within Riverside and San Bernardino Counties. Therefore, they are unlikely to utilize local recreation facilities and any use would be temporary. During operation of the Project, up to eight full-time and or part-time workers would be part of the regular O&M workforce. While the long-term O&M workforce would likely live within the area, additional recreational use by up to eight workers and their families would have a negligible impact on existing recreation areas.

Threshold c: Would the Project be located within a Community Service Area (CSA) or recreation and park district with a Community Parks and Recreation Plan (Quimby fees)?

NO IMPACT. The Project is not located within a Community Service Are (CSA) or recreation and park district with a Community Parks and Recreation Plan (County of Riverside 2015). The Project site is located on approximately 1,082 acres of private lands and approximately 41 acres is located on land administered by the BLM. The solar site would be located on private lands, the Linear Facility Routes on BLM-administered lands within a DFA for solar, wind, and geothermal projects as designated by the DRECP. The DRECP incentivizes the development of renewable solar energy facilities within the Project area and, as such, the LFRs would be consistent with the intended uses of this area. Therefore, there would be no impact to a CSA or recreation and park district with a Community Parks and Recreation Plan.

Threshold d: Would the Project include the construction or expansion of a trail system?

NO IMPACT. As stated above, the solar site is located on approximately 1,082 acres of private lands and approximately 41 acres is located on land administered by the BLM. There are no trails located within the Project site (County of Riverside 2015). The Project includes a solar site and Linear Facility Routes, none of which include or result in the construction and/or expansion of a trail system. As such, no impact would occur.

Cumulative Impacts

Geographic Scope. The geographic scope of the cumulative impacts analysis includes recreational areas within a 20-mile distance from the Project area because direct and indirect impacts to recreation would

be additive in this area in that they could result in direct loss of recreation and indirect impacts to the same resources. This geographic scope includes all projects listed in Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario.

Cumulative Impacts. As discussed under Threshold "a," the Project does not include the construction of recreational facilities. the Project would result in the closure of a portion of DC 536-1 that crosses the Project site. The Project would not contribute to a significant cumulative loss of OHV routes because the route impacted by the Project does not lead to any specific recreation area, is minimally used, and is not a legal route available to the public. Therefore, eliminating it from use would not require the construction of any new or replacement routes. As such, the Project would not contribute to a cumulatively significant impact or require the construction of expansion of recreational facilities, which might have an adverse physical effect on the environment.

As discussed under Threshold "b," the Project would not induce population growth that would substantially increase the use of existing neighborhood or regional parks or other recreational facilities. The required temporary construction and decommissioning workforce for the Project would be drawn from communities within Riverside and San Bernardino Counties. Even when multiple projects overlap, they would not result in a substantial increase in recreation usage in an area that would lead to demand for construction or expansion of recreational facilities. Although some workers from these projects may use recreational areas during construction, O&M, and decommissioning, increased use would be minimal and/or temporary as workers would be either from the surrounding area or temporarily residing within the area and would therefore not contribute substantially to the physical deterioration of existing facilities. The number of operational employees would be minimal and therefore additional use of the recreational areas would be minimal as well. As such, the Project's impacts combined with those of nearby projects would not result in a cumulatively significant impact with respect to the deterioration to neighborhood or regional parks or other recreational facilities.

As discussed under Threshold "c," the Project is not located within a CSA or recreation and park district with a Community Parks and Recreation Plan (County of Riverside 2015). Therefore, the Project would not contribute to a cumulatively significant impact with respect to impacts to a CSA or recreation and park district with a Community Parks and Recreation Plan.

As discussed under Threshold "d," the Project would not include or result in the construction and/or expansion of a trail system. Therefore, the Project would not contribute to a cumulatively significant impact resulting in the construction or expansion of a trail system.

Accordingly, the Project's incremental contribution to the cumulative impacts to recreation caused by other past, present, and probable future projects would not be cumulatively considerable or significant. Therefore, the Project would not result in cumulatively considerable impacts to recreation.

3.18.4 Mitigation Measures

No mitigation would be required.

3.18.5 References

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Figure 3.18-1 Recreation Areas

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Figure 3.18-2 BLM Open Routes

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3.19 Transportation

This section includes an analysis of the impacts on transportation that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning the proposed project (Project). The analysis in this section describes the applicable regulations, provides information on existing conditions that influence transportation in and surrounding the Project site, identifies the criteria used for determining the significance of environmental impacts, describes the Project's potential impacts to transportation, and lists Mitigation Measures (MMs) that would be incorporated into the Project to avoid and/or substantially lessen to the extent feasible potentially significant impacts.

A detailed transportation study, Sapphire Solar Project Transportation Analysis, was prepared to evaluate the potential traffic impacts of the Project and is provided as Appendix G of this Draft EIR.

3.19.1 Regulatory Framework

Federal Laws, Regulations, and Policies

Code of Federal Regulations, 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 Laws, Regulations, and Policies

Senate Bill 743. Senate Bill 743, signed by the governor in 2013, changed the way transportation impacts are identified in the California Environmental Quality Act (CEQA). Specifically, the legislation directed the Governor's Office of Planning and Research (OPR) to look at different metrics for identifying transportation as a CEQA impact. The updated CEQA Guidelines (OPR 2018a) and the final OPR Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018b) identify vehicle miles traveled (VMT) as the appropriate metric for transportation impact analysis, as opposed to the use of roadway capacity/delay metrics, such as automobile delay and level of service (LOS). Also, the OPR Technical Advisory indicates that any construction effects on transportation will be temporary and evaluation of VMT during the construction phase of a project can be a qualitative, high-level assessment.

California Vehicle Code. The California Vehicle Code includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways; safe operation of vehicles; and the transportation of hazardous materials.

California Department of Transportation (Caltrans) Local Development-Intergovernmental Review. The Caltrans Local Development-Intergovernmental Review program uses the Transportation Impact Study Guide (TISG) during environmental review of land use projects and plans (Caltrans 2020a). The Caltrans Local Development-Intergovernmental Review program works with local jurisdictions early and throughout their land use planning and decision-making processes, consistent with the requirements of CEQA and state planning law. Caltrans seeks to reduce single-occupancy-vehicle trips; provide a safe transportation system; reduce per capita VMT; increase accessibility to destinations via cycling, walking, carpooling, and transit; and reduce greenhouse gas emissions. Those goals, along with standard CEQA practice, create the foundation of Caltrans review of proposed new land use projects.

The 2020 TISG replaced Caltrans' previous 2002 TISG, which was based on vehicle delay and congestion. Based on the 2020 TISG, for land use projects and plans, automobile delay is no longer considered a significant impact on the environment under CEQA per Senate Bill 743. Caltrans review of land use projects

and plans is now based on VMT, consistent with changes to the CEQA Guidelines (14 CCR 15064.3[b][1]). This 2020 VMT-focused TISG provides a foundation for lead agencies' application of the VMT metric to CEQA project analyses.

Caltrans Traffic Safety Bulletin 20-02-R1: Interim Local Development and Intergovernmental Review Safety Review Practitioners Guidance (Caltrans 2020b) provides additional guidance on evaluating the potential safety impacts of a project on Caltrans facilities. The analysis provided in Section 3.19.3, Impact Analysis, is consistent with Caltrans' guidelines.

Local Laws, Regulations, and Policies

Southern California Association of Governments (SCAG) Connect SoCal – Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). The SCAG develops the RTP, which presents the transportation vision for Los Angeles, Orange, San Bernardino, Imperial, Riverside, and Ventura Counties. Senate Bill 375 was enacted to reduce greenhouse gas emissions from automobiles and light trucks through integrated transportation, land use, housing, and environmental planning. Under the law, SCAG is tasked with developing an SCS, an element of the RTP that provides a plan for meeting emissions reduction targets set forth by the California Air Resources Board. The SCS outlines the plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs–housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measures.

The 2020–2045 RTP/SCS, also known as Connect SoCal, is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. It charts a path toward a more mobile, sustainable, and prosperous region by making connections between transportation networks, between planning strategies, and between the people whose collaboration can improve the quality of life for Southern Californians (SCAG 2020). The SCAG Regional Council adopted Connect SoCal (2020–2045 RTP/SCS) on September 3, 2020.

As part of the development of Connect SoCal, SCAG adopted a set of 10 high-level goals (SCAG 2020):

- **Goal #1**: Encourage regional economic prosperity and global competitiveness
- Goal #2: Improve mobility, accessibility, reliability, and travel safety for people and goods
- Goal #3: Enhance the preservation, security, and resilience of the regional transportation system
- Goal #4: Increase person and goods movement and travel choices within the transportation system
- Goal #5: Reduce greenhouse gas emissions and improve air quality
- Goal #6: Support healthy and equitable communities
- Goal #7: Adapt to a changing climate and support an integrated regional development pattern and transportation network
- Goal #8: Leverage new transportation technologies and data-driven solutions that result in more efficient travel

- Goal #9: Encourage development of diverse housing types in areas that are supported by multiple transportation options
- Goal #10: Promote conservation of natural and agricultural lands and restoration of habitats

Additionally, 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 RTP/SCS. The criteria for projects of regional significance are outlined in CEQA Guidelines Sections 15125 and 15206. The Project's consistency with SCAG's goals included in the current RTP/SCS is included in Section 3.19.3.

Riverside County Long Range Transportation Study

In December 2019, the Riverside County Transportation Commission developed the first countywide Long Range Transportation Study (LRTS) (RCTC 2019). It provides a vision for what an integrated transportation system will look like in Riverside County in the next 20 years. The LRTS dovetails with and bridges local plans and SCAG's RTP/SCS. It supports the County's economy and quality of life through smart planning, project development and implementation. The Study is multimodal in nature and encompasses all forms of transportation: highways, local roads, transit, rail, pedestrian and bicycle facilities. The LRTS also identifies potential bundles of projects that can be developed in a systematic approach, demonstrate environmental benefits, and help RCTC and its member agencies be in a more competitive position to secure funding for transportation improvements. The plan will also help RCTC better prioritize and coordinate the different planning efforts across the county with state, regional, and local agencies.

The LRTS incorporates the County's Congestion Management Plan (CMP) which includes multimodal system performance standards for Riverside County in accordance with CMP legislation and federal CMS requirements. The CMP roadway network includes all state highway facilities in Riverside County, including Interstate (I) 10 and State Route (SR) 177. However, LOS is no longer used to identify potential transportation impacts under CEQA.

Riverside County General Plan – Circulation Element. The Riverside County (County) General Plan Circulation Element contains the following policies applicable to the Project (County of Riverside 2020a):

- **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 2.2.** 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, 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 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 onsite 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.

Riverside County Municipal Code Title 10, Chapter 10.08, Sections 10.08.010–10.08.180. These regulations establish requirements and permits for oversized and overweight vehicles.

Riverside County Ordinance No. 460. This ordinance specifies that all new access roads shall conform to the requirements of the County Transportation Department Subdivision Regulations.

Riverside County Ordinance No. 461. This ordinance specifies that all new access roads shall conform to the requirements of the County Transportation Department Road Improvement Standards and Specifications.

Desert Center Area Plan. The Desert Center Area Plan is an Area Plan within the General Plan (County of Riverside 2021). The Desert Center Area Plan contains policies that guide the physical development and land uses within the Desert Center Area, which includes a major portion of the Chuckwalla Valley that is surrounded by the Eagle, Coxcomb, and Chuckwalla Mountains and Joshua Tree National Park. The Desert Center Area Plan includes a Circulation Element, which states that the fundamental purpose of the circulation system in Desert Center is to support the mobility needs of the residents, visitors, and businesses in this area while accommodating travelers on I-10. The following policies provide additional direction for relevant circulation issues specific to Desert Center.

- **Policy DCAP 5.1.** Design and develop the vehicular roadway system per Figure 5, Circulation, and in accordance with the functional classifications and standards specified in the General Plan Circulation Element.
- **Policy DCAP 7.1**. Implement the Trails and Bikeway System as discussed in the Non-motorized Transportation section of the General Plan Circulation Element.

- **Policy DCAP 7.2.** Continue to explore opportunities for developing additional trails to serve the Desert Center area.

3.19.2 Environmental Setting

The Project is in Riverside County, approximately 3 miles north of the Desert Center community, approximately 40 miles west of the City of Blythe, and 3.5 miles north of I-10. The Project is bounded on the north, east, and west sides by Bureau of Land Management (BLM) lands and to the south by Belsby Avenue. Melon Street runs along the west side of the Project boundary and Jojoba Street on the east. Figure 3.19-1, Site Access and Transportation Study Area, illustrates the roadway network that provides access to the Project site and the anticipated distribution of the construction-related traffic. Because the Project is in a remote area, all materials and personnel would travel from surrounding communities within the County. All Project-related traffic would use I-10 and Kaiser Road as the primary site access. Secondary access for emergency services would be via SR-177. The "study area" for the traffic and transportation analysis includes the segments of I-10, segments of Kaiser Road, and segments of SR-177, which would have the greatest potential to experience an increase in traffic volume during construction and operation, as well as local roadways connecting to the Project site. It is anticipated that most construction workers would be drawn from the greater Riverside County or San Bernardino County regions with some workforce coming from Blythe, Palo Verde or Desert Center. Construction workers and delivery trucks would access the Project site from Ragsdale Road, and Kaiser Road.

Regional and Local Roadways

Regional roadway facilities in the area and those used to access the Project site include the following:

- **I-10** is an east–west-oriented, generally two-lane freeway (in both directions) located south of the Project. It would provide regional access to the Project site via its interchange with SR-177. The posted speed limits are 65 and 70 miles per hour. Based on the most recent available data from the 2020 Caltrans Traffic Census, I-10 at the SR-177 junction carries approximately 26,500 average daily traffic (Caltrans 2020c).
- **Kaiser Road** is generally a north–south, two-lane, undivided, and unimproved roadway located south and west of the Project site. The County General Plan Circulation Element classifies Kaiser Road as a Major Roadway. The roadway connects the Project site to SR-177 to the south. No pedestrian or bicycle facilities are present on either side of the roadway within the vicinity of the Project site. There is no posted speed limit.
- **SR-177** is generally a north–south-oriented, two-lane, undivided, and unimproved (i.e., no curb and gutter) roadway located south and east of the Project site. The County General Plan Circulation Element classifies SR-177 as a Mountain Arterial. The road connects the Project site to I-10 to the south. No pedestrian or bicycle facilities are present on either side of the roadway within the vicinity of the Project site. The posted speed limit is 65 miles per hour. Based on the most recent available data from the 2020 Caltrans Traffic Census, SR-177 carries approximately 2,900 average daily traffic near the I-10 junction (Caltrans 2020c).
- **Ragsdale Road** is an east–west, two-lane, undivided, and unimproved roadway located south of the Project site. The County General Plan Circulation Element does not classify Ragsdale Road. The roadway connects to Kaiser Road and SR-177 and provides a parallel connection to I-10. No pedestrian or bicycle facilities are present on either side of the roadway within the vicinity of the Project site. There is no posted speed limit.

Unpaved Roads

Several roads within the boundaries of the Project site exist as unimproved and unpaved dirt roads: Jojoba Street, Plantation Street, Belsby Avenue, Melon Street, Osborne Avenue, and Investor Avenue. These roadways may be utilized by the public, but due to their status as unimproved dirt roads, it is assumed that public traffic is nonexistent to nominal along these roads.

Intersecting County Public Use Roadways

Two roads intersect the interior of the Project site from east to west: Investor Avenue and Osborne Avenue. The portion of Osborne Avenue that intersects the Project site is approximately 0.6 miles long. Osborne Avenue is identified by the County as a road "accepted for public use." The portion of Investor Avenue that intersects the Project site is approximately 1 mile long. Investor Avenue is identified by the County as a road "accepted for public use."

One County road intersects the interior of the Project site from north to south: Melon Street. The portion of Melon Street that intersects the Project site is approximately 0.5 miles long. Melon Street is identified by the County as a road "accepted for public use."

Public Transportation within the Vicinity

Public Transportation Service

The nearest public bus service is offered by the Palo Verde Valley Transit Agency (PVVTA), which serves the Blythe area. The nearest stop to the site is located at the Desert Center Post Office, roughly 3 miles southwest of the Project site. This stop is serviced by PVVTA's Route 6 Wellness Express, which operates once a day on Mondays, Wednesdays, and Fridays: westbound at 7:15 a.m., and eastbound at 3:20 p.m. (PVVTA 2023).

Pedestrian and Bicycle

Pedestrian facilities include sidewalks, crosswalks, curb ramps, pedestrian signals, and streetscape amenities. Since many of the roads in the area are unimproved, there are no pedestrian facilities in the vicinity of the Project site. Similarly, there are no existing bicycle facilities in the vicinity of the Project site. The nearest pedestrian or bicycle paths are located in the Lake Tamarisk community, approximately 1.28 miles south of the Project site. Given the rural nature of local roads and lack of pedestrian and bicycle facilities, pedestrian and bicycle use of the roadway is minimal.

3.19.3 Impact Analysis

Methodology

This analysis focuses on potential impacts related to the construction, operation, maintenance, and future decommissioning of the Project on the surrounding transportation systems and roadways. This assessment of transportation-related impacts is based on evaluations and technical analyses designed to compare the existing conditions (pre-Project) to those during construction of the Project, as well as potential cumulative impacts, as well as the impacts related to operations and decommissioning of the Project. This analysis considers the effects of the Project on transportation and traffic in the context of Caltrans and County requirements. Caltrans is responsible for permitting and regulating the use of state-administered roadways within California, including I-10 and SR-177, and the County is responsible for

regulation of the use of roadways within its jurisdictional boundaries. BLM is responsible for use of approved routes and new rights-of-way for use of routes within its jurisdiction.

Trip Generation

Construction

Generally, construction work schedules are expected to be at least 8 hours per day Monday through Friday, excluding federal holidays. Typically, the workday would consist of one shift beginning as early as 6:00 a.m. and ending as late as 6:00 p.m. The work schedule may be modified throughout the year to account for the changing weather conditions. Additional hours and/or nighttime work and weekend work (Saturdays and Sundays) may be necessary to make up schedule deficiencies, or to complete critical construction activities (e.g., photovoltaic block construction, or working around time-critical shutdowns and constraints). To provide a conservative analysis, all construction workers were assumed to arrive inbound to the site during the AM peak period (7:00 a.m. to 9:00 a.m.) and all workers were assumed to depart the site during the PM peak period (4:00 p.m. to 6:00 p.m.). Truck deliveries are typically sporadic throughout the workday. To provide a conservative analysis, truck arrivals and departures were assumed to be distributed evenly over the course of an 8-hour workday, even though the typical construction workday would be longer than 8 hours.

The peak period of construction would occur when multiple phases of construction overlap, resulting in peak worker and truck trips and maximum traffic impacts. The trip generation estimates during the peak construction period for the Project are summarized in Table 3.19-1 below. To account for the impact construction-related trucks may have compared to passenger vehicles, passenger car equivalent (PCE) factors were applied to the trip generation estimates to account for truck traffic associated with construction activity. A 1.0 PCE factor was applied to passenger vehicles, a 2.0 PCE factor was applied for vendor trucks (which also includes trucks hauling water from off-site locations), and a 3.0 PCE factor was applied for haul trucks.

Table 3.19-1. Peak Period of Construction Trip Generation Estimates

				AM Peak Hour			PM Peak Hour		
Vehicle Type	**Daily Quantity**		**Daily Trips**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Non-PCE Adjusted Trip Generation									
Construction Workers[1]	250	workers	500	250	0	250	0	250	250
Vendor Trucks[2]	3	trucks	6	3	3	6	3	3	6
Haul Trucks[2]	16	trucks	32	2	2	4	2	2	4
Peak Trip Total (Non-PCE)			**538**	**255**	**5**	**260**	**5**	**255**	**260**
PCE Adjusted Trip Generation									
Construction Workers	250	workers	500	250	0	250	0	250	250
Vendor Trucks3	3	trucks	12	6	6	12	6	6	12
Haul Trucks3	16	trucks	96	6	6	12	6	6	12
Peak Trip Total (PCE)			**608**	**262**	**12**	**274**	**12**	**262**	**274**

Notes: PCE = passenger car equivalent.
[1] Conservatively assumes all construction workers arrive in the AM peak hour and depart the site in the PM peak hour.
[2] Vendor and haul trucks are assumed to arrive and depart the site evenly throughout an 8-hour workday.
[3] Vendor trucks were estimated to have 2.0 PCE adjusted value, while haul trucks were estimated to have 3.0 PCE adjusted value.

As shown in Table 3.19-1, the peak period of construction for the Project would generate approximately 538 daily trips, 260 AM peak hour trips, and 260 PM peak hour trips. After trip generation estimates were adjusted utilizing PCE factors, the peak period of construction for the Project would generate approximately 608 daily trips, 274 AM peak hour trips, and 274 PM peak hour trips.

For all other phases of construction, the amount of vehicular traffic is estimated to be less than the peak period. All construction-related traffic would be temporary and short term and would be removed from the study area roadway network upon completion of the Project.

Decommissioning

The Project has an operational life of at least 39 years. Transportation impacts of decommissioning at the end of the Project's operational life are expected to be similar to the impacts from construction outlined above. However, traffic volumes within the study area cannot be projected that far in the future, and as such a specific analysis and outcome of impacts cannot be determined at this time. A Closure, Decommissioning, and Reclamation Plan has been prepared for the Project, which includes measures specific to transportation impacts of decommissioning if necessary.

Operations

Upon commissioning, the Project would enter the operational phase. For the duration of the operational phase, the Project would be maintained by up to eight permanent staff employees and monitored remotely via a Supervisory Control and Data Acquisition (SCADA) system. On-site maintenance staff would be responsible for security, vegetation management, permit compliance, and Project repairs. Daily trips generated by the Project's up to eight permanent employees commuting to the site, visitors, and/or light deliveries would be less than 50 daily trips.

Project maintenance performed on the site would consist of vegetation management, maintaining compliance with Project permits, minor repairs, and inspection and replacement of Project equipment as needed. Maintenance would occur during daylight hours, when possible. Maintenance program elements include:

- Managing a group of prequalified maintenance and repair firms who can meet the operations and maintenance (O&M) needs of the facility throughout its life
- Implementing a responsive, optimized cleaning schedule
- Responding to facility emergencies and failures in a timely manner
- Maintaining an inventory of spare parts to ensure timely repairs and consistent plant output
- Maintaining a log to effectively record and track all maintenance problems
- Performing maintenance on the Project site as required to clear obstructive ground cover

The permanent operations, or O&M phase, of the Project is expected to have nominal operational vehicular trips associated with routine maintenance and upkeep of facilities, including annual panel washing, and therefore the number of permanent trips (less than 50 daily trips) associated with the Project are not expected to impact the study area roadway network. The roadway conditions in the Project vicinity would not substantially differ from existing conditions.

Vehicle Miles Traveled

Methodology: Per the County Transportation Analysis Guidelines (County of Riverside 2020c) and the OPR Technical Advisory, a VMT analysis is not required for projects that are presumed to have a less-than-significant impact, including small projects resulting in 110 daily trips or less (OPR 2018b).

- The permanent O&M of the Project would be maintained by up to eight permanent staff employees and monitored remotely via a SCADA system. O&M-related trips would be less than 50 daily trips. Project operation is presumed to have a less-than-significant impact to VMT because it would generate 110 or less (permanent) daily trips; therefore, VMT analysis of Project operation is not required. During some phases of construction, construction-related traffic would exceed 110 daily trips. All construction-related traffic would be temporary and short term and would be removed from the study area roadway network upon completion of the Project. Therefore, qualitative analysis of construction traffic is appropriate per CEQA Guidelines Section 15064.3(c).

Level of Service Standards

Until July 1, 2020, the standard Caltrans and the County used to measure potential traffic impacts was LOS, which measured vehicle delays. However, effective July 1, 2020, CEQA requires using VMT as the new standard to measure transportation impacts. Under CEQA, LOS analyses are no longer required and are no longer recognized as a valid methodology for analyzing potential transportation impacts.

While LOS analysis has been eliminated under CEQA, the existing County General Plan Circulation Element, the County's Congestion Management Plan, and the County's Environmental Assessment Form continue to utilize LOS thresholds. Appendix G of this Draft EIR (Sapphire Solar Project Transportation Analysis) evaluates the potential LOS impacts to both roadway segments and intersections during construction of the Project. Specific findings of this LOS analysis are not included within this section of the EIR. However, any applicable findings within the transportation analysis were incorporated into the overall qualitative analysis of potential impacts to local transportation systems. Lastly, the transportation analysis fulfills the traffic study requirements of the plans, ordinances, or policies establishing measures of overall effectiveness for the performance of the circulation system provided in Section 3.19.1, Regulatory Framework. This supplements the analysis provided in Threshold "a."

Criteria for Determining Significance

- Section XVII of Appendix G to the State CEQA Guidelines addresses typical adverse effects to transportation and includes the following threshold questions to evaluate a project's impacts on transportation. Would the project:

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

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

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

  d) Result in inadequate emergency access?

Significance thresholds, set forth in the County's Environmental Assessment Checklist, are derived from Section XVII of Appendix G to the State CEQA Guidelines (listed above), and state that the Project would have a significant impact on transportation if construction and/or operation of the Project would:

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

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

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

d) Cause an effect upon, or a need for new or altered maintenance of roads.

e) Cause an effect upon circulation during the project's construction.

f) Result in inadequate emergency access or access to nearby uses.

Environmental Impacts

Threshold a: Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

LESS THAN SIGNIFICANT. Construction would result in temporary traffic that would be eliminated from the roadway network upon completion of construction, and the Project does not include permanent road widening or otherwise inducing travel on County roadways. Construction would not affect bicycle or pedestrian facilities as none exist in the areas of proposed construction. Construction-related trips could result in temporary delays, but would not impede transit service. Like construction traffic, decommissioning traffic would be temporary and would be eliminated from the roadway network completely upon the completion of decommissioning. Therefore, impacts of Project construction and decommissioning related to conflicts with adopted policies, plans, or programs addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities would be less than significant.

The Project would not increase roadway capacity, generate a permanent increase in traffic, or change traffic patterns that could cause an impact to the circulation system including transit, roadway, bicycle, and pedestrian facilities. Therefore, the impact of Project operations related to conflicts with adopted policies, plans, or programs addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities would be less than significant.

Threshold b: Would the project conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?

LESS THAN SIGNIFICANT. Construction would result in temporary traffic that would be eliminated from the roadway network upon completion of construction. Once construction is completed, VMT would return to pre-Project conditions and all temporary, construction-related VMT would be eliminated. The same would be true for temporary decommissioning impacts. The VMT thresholds described in either OPR or County guidelines do not apply to construction trips. Therefore, Project construction would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b). Therefore, the construction and decommissioning impact of the Project related to VMT would be less than significant.

Any increase in traffic associated with O&M of the Project would be nominal and would not directly generate substantial new VMT or conflict with or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b). Even though the Project is not a land use project, it would generate fewer than 110 daily trips and would qualify as a "small project" that does not require a quantitative VMT analysis. Additionally, the Project does not include permanent road widening or otherwise inducing travel on County roadways. Therefore, Project operations would have nominal direct impacts related to changes in VMT and would

not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b). Therefore, the operational impact of the Project related to VMT would be less than significant.

Threshold c: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Project construction, operation, and decommissioning would not involve hazardous geometric design features, such as sharp curves, dangerous intersections, or incompatible uses such as farm equipment.

Construction and decommissioning of the Project would require the delivery of heavy construction equipment and materials, which may require transport by slow-moving and/or oversize vehicles. The use of oversize vehicles may create a hazard to the public, by limiting motorist views of the roadways, limiting shoulders on roadways, and resulting in changing traffic conditions that are unexpected by the road user. Operational vehicle traffic would be de minimis and would not increase hazards. Once construction and decommissioning are complete, roadway conditions would return to existing conditions. To minimize impacts during construction, MM TRAF-1 (Construction Traffic Management Plan) is recommended. MM TRAF-1 may include measures such as the use of warning signs to notify drivers in advance of construction activity, the use of flaggers to alert motorists of slow moving trucks, limiting time for heavy vehicle deliveries, and other measures to reduce potential hazards. With implementation of MM TRAF-1, impacts would be less than significant. A Closure, Decommissioning, and Reclamation Plan has been prepared for the Project, which includes measures specific to transportation impacts of decommissioning ensuring that decommissioning impacts would be less than significant.

Threshold d: Would the project cause an effect upon, or a need for new or altered maintenance of roads?

LESS THAN SIGNIFICANT. The Project is bounded on the north by BLM lands, on the east by Jojoba Street, on the west by Melon Street, and on the south by Belsby Avenue. These roads are unpaved; therefore, direct access is only available from SR-177 prior to accessing the site further via the unpaved roads. The Project would also include two Linear Facility Routes (LFRs), LFR A and LFR B, which would include two access roads. The access road included in LFR A would be constructed for primary access from Kaiser Road. The access road included in LFR B would include secondary access for emergency services from SR-177). Two publicly accepted roads intersect the interior of the Project site from east to west: Investor Avenue and Osborne Avenue. The portion of Osborne Avenue that intersects the Project site is approximately 0.6 miles long. Osborne Avenue is identified by Riverside County as a road "accepted for public use" by Riverside County. The portion of Investor Avenue that intersects the Project site is approximately 1 mile long. Investor Avenue is identified by Riverside County as a road "accepted for public use."

Access to the site is provided by up to two access roads: Kaiser Road and one to the east from SR-177. The east side of the Project site is located adjacent to SR-177/Rice Road. Figure 2-1, Project Location, illustrates the location of the Project relative to major highways and access roads.

The permanent operations, or O&M phase, of the Project is expected to have nominal operational vehicular trips associated with routine maintenance and upkeep of facilities, including annual panel washing, and therefore the number of permanent trips (less than 50 daily trips) associated with the Project is not expected to impact the study area roadway network. The roadway conditions in the Project vicinity would not substantially differ from existing conditions. Therefore, the Project would not cause an effect upon or a need for new or altered maintenance of roads and impacts would be less than significant.

Threshold e: Would the project cause an effect upon circulation during the project's construction?

*LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. C*onstruction and decommissioning of the Project would result in a temporary increase in the number of local trips as a result of the construction traffic, including worker trips, vendor trucks, and haul trucks., MM TRAF-1 is recommended to minimize impacts during construction and manage circulation in and around the site. MM TRAF-1 may include measure such as staggering work shifts to reduce peak periods of congestion, limiting time for heavy vehicle deliveries, and other measures to improve circulation. With MM TRAF-1, circulation impacts associated with construction would be less than significant. A Closure, Decommissioning, and Reclamation Plan would be prepared for the Project, which would include measures specific to transportation impacts of decommissioning if necessary, ensuring that decommissioning impacts would be less than significant.

The de minimis amount of traffic associated with Project operations would not materially affect existing traffic conditions in the Project site; therefore, any operational impacts related to circulation would be less than significant.

Threshold f: Would the project result in inadequate emergency access or access to nearby uses?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Construction and decommissioning of the Project would result in a temporary increase in the number of local trips as a result of construction traffic, including worker trips, vendor trucks, and haul trucks. The primary impacts would include short-term and intermittent delays due to the increase in Project-generated traffic and slow-moving vehicles. MM TRAF-1 is recommended to minimize impacts during construction and facilitate access to nearby uses and ensure adequate emergency access. MM TRAF-1 to reduce potential impacts to emergency access may include measure such as informing emergency service providers of construction traffic schedule. With MM TRAF-1, construction impacts associated with emergency access or access to nearby uses would be less than significant. A Closure, Decommissioning, and Reclamation Plan would be prepared for the Project, which would include measures specific to transportation impacts of decommissioning if necessary, ensuring that decommissioning impacts would be less than significant. Additionally, one of the two LFRs (LFR B) would be for emergency access via SR-177. All existing County accepted public roads will remain in place during construction, operation, and decommissioning of the Project. There will be no changes to existing public access. The de minimis amount of traffic associated with Project operations would not materially affect existing traffic conditions in the Project site and would not interfere with access to nearby uses nor result in inadequate emergency access; therefore, any operational impacts associated with access to nearby uses or emergency access would be less than significant.

Cumulative Impacts

Geographic Scope. The geographic scope of the cumulative analysis for transportation is the same as described for the Project-specific impacts and includes the segments of I-10, Kaiser Road, and SR-177, which would have the greatest potential to experience an increase in traffic, and local roadways connecting to the site.

Plan, Program, Ordinance, or Policy Addressing Circulation

As described in Threshold "a" above, and examined in Section 3.9, Greenhouse Gas Emissions, and Section 3.12, Land Use and Planning, of this EIR, the Project would not conflict with adopted policies, plans, or programs addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Construction of reasonably foreseeable future projects, specifically the Easley Renewable Energy Project listed in Table 3.1-2, Contingent Future Projects or Programs in the Project Area, in Chapter 3,

Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario, may overlap with construction of the Project. However, construction of the Project would not affect bicycle or pedestrian facilities as none exist in the areas of proposed construction. Construction-related trips could result in temporary delays, but would not impede transit service and would be eliminated from the roadway network upon completion of construction. Therefore, the Project would not combine with cumulative projects that would conflict with adopted policies, plans, or programs regarding public transit or bicycle or pedestrian facilities under cumulative conditions. Furthermore, during Project operations, the Project would not increase roadway capacity, generate a permanent increase in traffic, or change traffic patterns that could cause an impact to the circulation system including transit, roadway, bicycle, and pedestrian facilities. Therefore, the cumulative impact of Project operations related to conflicts with adopted policies, plans, or programs addressing the circulation system would be less than significant.

CEQA Guidelines Section 15064.3(b)

As described in Threshold "b" above, once construction is completed, VMT would return to pre-Project conditions and all temporary, construction-related VMT would be eliminated. The same would be true for temporary decommissioning impacts. The VMT thresholds described in either OPR or County guidelines do not apply to construction trips. Therefore, Project construction and decommissioning would not result in a cumulatively considerable impact related to VMT.

Any increase in traffic associated with O&M of the Project would be nominal and would not directly generate substantial new VMT or conflict with or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b). Even though the Project is not a land use project, it would generate fewer than 110 daily trips and would qualify as a "small project" that does not require a quantitative VMT analysis. Therefore, Project operations would not result in a cumulatively considerable impact related to VMT.

Hazardous Design Features

As described in Threshold "c," the Project would not include a design feature or utilize vehicles with incompatible uses that would create a hazard on the roadways surrounding the Project site. As previously discussed, the cumulative impact analysis focuses on traffic volumes generated during construction of the Project in combination with cumulative projects in the area, as well as applying an annual growth rate of 2% through the cumulative year scenario. The Easley Renewable Energy Project has the potential to generate construction-related traffic concurrently with the Project along potentially the same roads used by the Project. Therefore, there would be a combined, but temporary, increase in trips and increased risk of hazards under cumulative conditions. However, the Project's contribution to potentially significant cumulative impacts would be reduced to less than cumulatively considerable with implementation of MM TRAF-1. MM TRAF-1 requires the preparation of a Construction Traffic Management Plan in coordination with Caltrans and the County, prior to and during construction, to minimize cumulative impacts of multiple simultaneous construction projects affecting shared portions of the circulation system. The Easley Renewable Energy Project would also be required to abide by state, and local laws and regulations regarding lane closures to reduce any potential impacts. Therefore, the Project, in conjunction with other planned and approved projects, would not have a cumulatively significant impact related to hazards.

New or Altered Maintenance of Roads

As described in Threshold "d," the permanent operations, or O&M phase, of the Project is expected to have nominal operational vehicular trips associated with routine maintenance and upkeep of facilities. The Easley Renewable Energy Project and the Athos Renewable Energy Project are also estimated to each add 30 permanent daily trips to the local roadways, with the majority being passenger vehicles (County

of Riverside 2019, 2024). However, access to each of the sites are via separate entrances and the Project trips would not occur on the same local roads. The roadway conditions in the Project vicinity would not substantially differ from existing conditions and there would be no additional maintenance needed beyond existing levels. While the cumulative Project trips are anticipated to each use SR-177, the total cumulative number of trips would represent an approximate 3% increase in traffic on SR-177. The negligible increase in permanent trips associated with the cumulative projects are not expected to impact the roadway. Therefore, the Project, in conjunction with other planned and approved projects, would not have a cumulatively significant impact related to new or altered maintenance of roads.

Effect upon Circulation During Construction

As described in Threshold "f," MM TRAF-1 is recommended to minimize impacts during construction and manage circulation in and around the site. MM TRAF-1 may include measures such as staggering work shifts to reduce peak periods of congestion, limiting time for heavy vehicle deliveries, and other measures to improve circulation. With MM TRAF-1, circulation impacts associated with construction would be less than significant. A Closure, Decommissioning, and Reclamation Plan would be prepared for the Project, which would include measures specific to transportation impacts of decommissioning if necessary, ensuring that decommissioning impacts would be less than significant. The Easley Renewable Energy Project would also be required to abide by state, and local laws and regulations to reduce any potential impacts related to circulation during construction. Therefore, with implementation of MM TRAF-1, the Project would result in a less-than-significant cumulative impact to circulation.

Emergency Access and Access to Nearby Uses

As previously described, the Easley Renewable Energy Project has the potential to generate construction-related traffic concurrently with the Project along potentially the same roads used by the Project. Therefore, there would be a combined, but temporary, increase in trips and impact on emergency access and access to nearby uses under cumulative conditions. However, the Project's contribution to potentially significant cumulative impacts would be reduced to less than cumulatively considerable with implementation of MM TRAF-1. MM TRAF-1 requires the preparation of a Construction Traffic Management Plan in coordination with Caltrans and the County, prior to and during construction, to minimize cumulative impacts of multiple simultaneous construction projects affecting shared portions of the circulation system. The Easley Renewable Energy Project would also be required to abide by state, and local laws and regulations regarding lane closures to reduce any potential impacts. Therefore, the Project would not result in a cumulative significant impact to emergency access or access to nearby uses.

3.19.4 Mitigation Measures

The following Mitigation Measure was developed to substantially lessen the potentially significant effects to transportation that could result from the construction, operation, maintenance, and decommissioning of the Project.

MM TRAF-1 **Construction Traffic Management Plan**. Prior to initiation of construction activities, a Construction Traffic Management Plan will be prepared by the contractor and filed with the County. Potential traffic management measures may include:

- Warning signage to meet County and California Department of Transportation requirements for driver awareness of construction activity in the vicinity.
- Staggering work shifts to reduce peak periods of congestion.
- Limiting time for heavy truck deliveries.

- Using flaggers at key locations to alert motorists to slow-moving trucks.
- Providing an information packet for affected residents to bring awareness to the Project activities and measures to minimize impacts.
- Informing emergency service providers of construction traffic schedule.

3.19.5 References

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Figure 3.19-1 Site Access and Transportation Study Area

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3.20 Tribal Cultural Resources

This section includes an analysis of the impacts to Tribal Cultural Resources (TCRs) that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning of the proposed project (Project). The analysis in this section describes the applicable regulations, provides information on existing TCRs in and surrounding the Project area, identifies the criteria used for determining the significance of environmental impacts, and describes the Project's potential impacts related to TCRs.

Issues raised during scoping for the Project related to TCRs include concern about impacts to known and unknown TCRs, including the potential for impacts to landscape, and the need for appropriate mitigation. Analysis in this section is based on the results of the Native American consultation conducted by the County for purposes of compliance with California Environmental Quality Act (CEQA) requirements prompted by Assembly Bill (AB) 52, located in Appendix I, Phase I Cultural Resources Assessment, of this EIR. Due to the confidential nature of the location of tribal cultural resources, information regarding location of cultural resources has been redacted from the report and is not included in Appendix I.

3.20.1 Regulatory Framework

Numerous laws and regulations require federal, state, and local agencies to consider the effects a project may have on cultural resources and, for purposes of the CEQA, on TCRs. These laws and regulations prescribe required agency processes, define the responsibilities and obligations of the various agencies proposing related action, and describe the relationship between and related requirements governing the interaction among other involved agencies and interested parties.

TCRs are a defined class of resources under state law. TCRs include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a tribe. To qualify as a TCR, the resource must either (1) be listed on, or be eligible for listing on, the California Register of Historical Resources (CRHR) or other local historic register; or (2) constitute a resource that the lead agency, at its discretion and as supported by substantial evidence, determines should be treated as a TCR (California Public Resources Code [PRC], Section 21074[a]). California Native American tribes that are traditionally and culturally affiliated with a geographic area can provide lead agencies with expert knowledge of their TCRs.

CEQA, as amended in 2014 by AB 52, requires a lead agency to send a formal notice and invitation to consult about a proposed project to all tribal representatives who request such notice. The purpose of this consultation is to obtain tribal information and recommendations regarding the significance of TCRs, the significance of the project's impacts on TCRs, and, if necessary, potentially feasible project alternatives or mitigation measures that may avoid or substantially lessen significant or potentially significant effects to TCRs to the extent feasible. (Refer to PRC Section 21080.3.2[a].) This section describes the regulatory framework for TCRs and describes available information regarding TCRs in and surrounding the Project's area from existing reports and as provided to Riverside County (County) through ongoing consultation with California Native American tribes.

Federal Laws, Regulations, and Policies

Both the National Environmental Policy Act and National Historic Preservation Act require analysis and protection of cultural resources. These acts are described in detail in Section 3.6, Cultural Resources.

State Laws, Regulations, and Policies

Native American Heritage Commission

PRC Section 5097.91 established the Native American Heritage Commission (NAHC), the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

Assembly Bill 52

AB 52 (which amended Section 5097.94 of, and added Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3 to, the PRC) established a process and related requirements governing state and local agency consideration of California Native Americans as a part of required public review of proposed projects under CEQA. The goal of AB 52, among other things, is to promote the involvement of California Native American tribes in the decision-making process, especially to identify resources significant to tribes and feasible ways to avoid or substantially lessen significant or potentially significant impacts to those resources. To reach this goal, AB 52 established a formal role for tribes in the CEQA process and formally recognized the unique expertise California Native American tribes may provide as substantial evidence to identify the locations, types, and significance of TCRs within their traditionally and culturally affiliated geographic area (PRC Section 21080.3.1[a]). CEQA defines a California Native American tribe as a "Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission." This definition does not distinguish between federally recognized and non-federally recognized tribal groups and is therefore more inclusive than the federal definition of "Indian tribe" (PRC Section 21073).

CEQA lead agencies are required to consult with tribes about potential TCRs in a project area, the potential significance of project impacts on those resources, the development of project alternatives, and the type of environmental document that should be prepared. AB 52 specifically states that a project that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment (PRC Section 21084.2).

CEQA Section 21074(a)(1), which incorporates by reference PRC Section 5024.1(c), defines TCRs to include either of the following:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

    a. Included or determined to be eligible for inclusion in the California Register of Historical Resources.

    b. Included in a local register of historical resources as defined in Public Resources Code section 5020.1(k).

2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code section 5024.1(c). In applying the criteria set forth in 5024.1(c) for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

A cultural landscape that meets one or both of the two criteria highlighted above is also a TCR under CEQA Section 21074(b), where the landscape is geographically defined in terms of the size and scope of the

landscape. Likewise, historical resources, unique archaeological resources, and "non-unique archaeological resources," as defined by CEQA, that conform with one or both of the two criteria highlighted above are also TCRs under CEQA Section 21074(c). All of these resources, including cultural landscapes, can be significant and TCRs because of their sacred and/or cultural tribal value rather than being important for their scientific value, as determined by a CEQA lead agency.

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

Local Laws, Regulations, and Policies

Riverside County General Plan. The following policies outlined in the Multipurpose Open Space Element of the Riverside County General Plan address cultural resources and generally apply to the Project (County of Riverside 2015).

- **Policy OS 19.1.** Cultural resources (both prehistoric and historic) are a valued part of the history of the County of Riverside.
- **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 that, at a minimum would address each of the following: application of the Cultural Resources Program to projects subject to environmental review; government-to-government consultation; 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; curation and the descendant community consultation requirements of local, state and federal law. (Action Item 144)
- **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. (Action Item 145)
- **Policy OS 19.5.** Exercise sensitivity and respect for human remains from both prehistoric and historic time periods and comply with all applicable laws concerning such remains.

Desert Center Area Plan. The Desert Center Area Plan (County of Riverside 2021) does not state any additional goals or policies specific to TCRs.

3.20.2 Environmental Setting

The discussion in this section is based on the confidential cultural resources technical report and impact analysis prepared for the Project (McDougall et al. 2023).

Prehistoric Setting

The Project site is near the boundary of the Colorado and Mojave deserts and is located along a known prehistoric and historic travel corridor. Scholars suggest multiple groups were present in the region at various times. Groups in the region originated from portions of the Mojave Desert, the interior Colorado

Desert, and the Colorado River, as well as more distant locations, such as the peninsular ranges, the Sonoran Desert region east of the Colorado River or elsewhere in the southwestern cultural sphere of Arizona, New Mexico, and Mexico. Therefore, the area's archaeological record also may reflect affinities with any of these regions. Please refer to Section 3.6 for a detailed description of the prehistory of the Project site.

Ethnographic Setting

There is archaeological evidence that ancestors of the Yuman-speaking groups have been in the area for some time. However, these were not the only people who would have used this area. Ethnographic information indicates that several other Native American groups, such as the Cahuilla and Chemehuevi, at least traversed the vicinity of the Project.

Native use of the Chuckwalla Valley area in the eighteenth and early nineteenth centuries was conditioned by its location as a frontier or boundary zone between the Halchidhoma to the east and the Takic groups, the Cahuilla, to the west. The Halchidhoma were linked to the desert division of the Cahuilla and the mountain division of the Serrano by ties of political friendship and long-distance exchange. Thus, the Chuckwalla Valley area formed a geographical link between these groups and formed a major travel corridor for communication between them. In addition to this east–west travel, the Chuckwalla Valley also provided a corridor for north–south travel between the territories of two Colorado River groups who were enemies of the Halchidhoma, the Mohave (also spelled Mojave) and the Quechan. Traveling parties from either one of these two groups going up or down the Colorado River had to veer away westward from the Palo Verde Valley to avoid the Halchidhoma. This often took them through the Chuckwalla Valley region.

Ethnohistorical and ethnographic sources for the Chuckwalla Valley area have been limited because the area was not regularly visited by non-native people until the 1860s. This was due in part to the fact that water and feed management on the eastern California deserts posed a severe challenge to successful horse or mule travel to the Colorado River and Arizona by non-native people. In addition, the boundaries and areas of settlement of native groups in the region have changed over time. Thus, ethnohistoric information and archaeological data may outline different patterns of occupation and territoriality. Nevertheless, it can be said with confidence that most groups living in the vicinity of the Project when the Spanish first made forays into the area spoke languages in the Yuman family of the Hokan language stock. These include the Halchidhoma, Mohave, and Quechan. Surrounding groups are Uto-Aztecan speakers; the Chemehuevi speak a language of the Numic branch and the Cahuilla are Takic-speakers. The final desiccation of Lake Cahuilla is thought to have caused major disruptions in the population in the Colorado Desert, perhaps contributing to the persistent warfare reported along the lower Colorado and Gila Rivers.

Native American groups with historical tribal territories falling within the vicinity of the Project area include the Quechan, Halchidhoma, Mohave, Chemehuevi, and Desert Cahuilla. Please refer to Section 3.6 for a description of the tribal territories associated with the Chuckwalla Valley and surrounding areas.

Identified Tribal Cultural Resources

In compliance with Assembly Bill 52 (AB52), notices regarding this Project were mailed to all requesting tribes on December 16, 2022.

The County received no response from the Cahuilla Band of Indians, Cabazon Band of Mission Indians, Colorado River Indian Tribes, Santa Rosa Band of Cahuilla Indians, Quechan Indian Nation, Augustine Band of Cahuilla Indians, Twenty-nine Palms Band of Mission Indians, Torres-Martinez Band of Desert Cahuilla Indians, Ramona Band of Cahuilla Mission Indians, or the Morongo Band of Indians.

The Agua Caliente Band of Cahuilla Indians responded in an emailed letter dated January 18, 2022, requesting to consult on the project. The cultural report was provided to the tribe and consultation was concluded with Agua Caliente on March 10, 2023.

The Soboba Band of Luiseno Indians responded in an emailed letter dated January 18, 2023, requesting consultation. The cultural report was sent to Soboba on January 19, 2023, and the project draft conditions of approval were sent on March 08, 2023. No response was received from Soboba and follow-up emails were sent on March 29, 2023, and August 25, 2023. To date there has been no response.

Although no specific physical Tribal Cultural Resources were identified the tribes both expressed concerns that the project has the potential for as yet unidentified subsurface tribal cultural resources. The tribes request that a Native American monitor be present during ground disturbing activities so any unanticipated finds will be handled in a timely and culturally appropriate manner (MM TCR-1).

The Project will be required to adhere to State Health and Safety Code Section 7050.5 in the event that human remains are encountered and by ensuring that no further disturbance occur in the immediate vicinity, until the County Coroner has made the necessary findings as to origin of the remains. Furthermore, pursuant to Public Resources Code Section 5097.98 (b), remains shall be left in place and free from disturbance until a final decision as to the treatment and their disposition has been made (MM CUL-6).

MM CUL-5 sets out the procedures to be followed should any unanticipated cultural resources be identified during ground disturbing activities.

Cultural Resources Inventory

As a result of the cultural resources survey effort, three prehistoric archaeological resources, consisting of isolated flaked stone artifacts, were identified in the Project area. None of these resources identified are eligible for listing in the CRHR or in a local register of historic resources under any criteria (see Section 3.6.3) nor are considered, due to lack of support by substantial evidence provided during consultation, to be significant and categorized as Tribal Cultural Resources, exhibiting significant cultural value to a California Native American tribe.

Prehistoric Trails Network Cultural Landscape/Historic District (PTNCL)

While, as stated above, no Tribal Cultural Resources were identified by tribes as a result of AB 52 consultation for the Project, consultation for nearby Projects (e.g. Oberon and Easley Renewable Energy Projects) have identified the Prehistoric Trails Network Cultural Landscape/Historic District (PTNCL) as such a resource, discussed below.

The Prehistoric Trails Network Cultural Landscape/Historic District (PTNCL) is a historic district that encompasses the entirety of the Project area. The District consists of prehistoric resources and landforms associated with the Halchidoma (or Coco-Maricopa) Trail (P-33-000053). The boundary of the PTNCL extends along the length of the historically known route of the trail, from where it begins near Blythe at the Colorado River, continuing to the west through the Chuckwalla Valley towards modern Los Angeles.

The PTNCL has been designated as a noncontiguous cultural landscape that incorporates prehistoric archaeological sites associated with P-33-000053/CA-RIV-53T (CEC 2014). It can be broadly defined as having a width of approximately 10 miles that is centered along the I-10 corridor and within the viewshed of that vantage point. The Project sits within the defined boundaries of the PTNCL.

PTNCL site types are divided into three categories: destinations, trails, and trail-associated sites or features (RWQCB 2021:C-27). Destinations are defined primarily as water sources, but also include

residential, religious, and resource-collection sites (Bagwell and Bastian 2010). Trails are linear alignments that were either created by the repeated passage of feet or by formal construction. Trail-associated sites or features may include concentrations of ceramics/pot drops, cleared circles, rock rings, rock clusters, rock cairns, rock alignments, petroglyphs, and geoglyphs. In places where the trail itself is not preserved, its route may be approximately traced by distinctive patterns of the same trail-associated sites and features listed above. The period of significance is the entire prehistoric and early historic periods. The thematic associations include travel, trade, ritual, and resource exploitation, particularly the collection of stone tool and ground stone raw materials. The PTNCL was previously determined eligible for listing on the CRHR under Criteria 1 and 4 for the Palen Solar Power Project (CEC 2014). No trail segments have been documented or known to exist within the Project area. No trail associated sites or features have been documented within the Project area. No destination sites, such as water sources, residential, religious, and resource-collection sites, have been documented or known to existing with the Project area. No cultural remains identified associated with the PTNCL have been documented in the Project's Cultural Resources Study Area may be associated with the PTNCL. The resources that have been identified within the Project's Cultural Resources Study Area include isolated flaked stone artifacts and isolated ceramic sherds lacking diagnostic constituents. These archaeological resources broadly relate to thematic associations but are not directly associated with any documented constituents of the PTNCL. The closest documented constituents in clear association with of the PTNCL lie 3.5 miles southeast of the Project Area, outside the areas of direct and indirect impacts, and include rock rings, rock cairns, and cleared circles. Other documented constituents of the PTNCL would include trail segments/ linear alignments, however, none have been located within the area of direct or indirect impacts.

3.20.3 Impact Analysis

Methodology

Criteria for Determining Significance

Section XVIII of Appendix G to the State CEQA Guidelines addresses typical adverse effects on TCRs and includes the following threshold questions to evaluate a project's impacts to TCRs. Would the project:

a) Cause a substantial adverse change in the significance of a TCR, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

   i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

   ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1., the lead agency shall consider the significance of the resource to a California Native American tribe?

Significance thresholds are set forth in the County's Environmental Assessment Checklist, are derived from Section XVIII of Appendix G to the State CEQA Guidelines (listed above), and state that the proposed project would have a significant impact on TCRs if the project or any project-related component would:

a) Cause a substantial adverse change in the significance of a TCR, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in

terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1., the lead agency shall consider the significance of the resource to a California Native American tribe.

Environmental Impacts

This section includes an examination of the Project's impacts to TCRs pursuant to the County's Environmental Assessment Checklist and Appendix G of the State CEQA Guidelines identified above.

Threshold a: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

ii. A resource determined by the lead agency in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1., the lead agency shall consider the significance of the resource to a California Native American tribe?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Although no specific physical archaeological resources qualifying as Tribal Cultural Resources were identified within the Project's Cultural Resources Study Area, as no resources were identified during tribal consultation under AB52 and none of the resources identified are eligible for the CRHR nor considered significant pursuant to criteria set forth in Public Resources Code section 5024.1(c), the Project site has the potential to contain as yet unidentified subsurface Tribal Cultural Resources. Should such resources be uncovered during project implementation, they could be subject to significant impacts in the absence of mitigation. To ensure that impacts remain less than significant in the event of an unanticipated discovery of a tribal cultural resource eligible for listing in the CRHR or determined to be significant pursuant to the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, Mitigation Measures TCR-1, MM TCR-2, and MM CUL-1 through MM CUL-7 (see Section 3.6.4) would be implemented.

Consultation for nearby Projects (e.g. Oberon and Easley Renewable Energy Projects) have identified the Prehistoric Trails Network Cultural Landscape/Historic District (PTNCL) as a Tribal Cultural Resource. As discussed in Section 3.20.2, no PTNCL trail segments are known to exist within the Project area. The prehistoric archaeological resources identified on the Project site include isolated lithics. While these resources broadly relate to PTNCL themes surrounding resource procurement and manufacture, these resource types are ubiquitous throughout the Chuckwalla Valley. Due to their widespread occurrences, removal of these resources would not alter the PTNCL's ability to convey its historical significance and would not constitute an adverse impact to the PTNCL. Thus, the Project would not demolish or materially

alter in an adverse manner any characteristics of the PTNCL that convey its historical significance and justify its eligibility for inclusion in the CRHR.

Cumulative Impacts

Geographic Scope. The geographic area for the cumulative analysis is eastern Riverside County and includes the existing, proposed, and reasonably foreseeable projects (refer to Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario). This geographic scope is appropriate because any TCRs within this area would be expected to be similar to those that might occur on the Project site because of their proximity and because similar environments, landforms, and hydrology would result in similar land use and, thus, similar TCRs.

Cumulative Impacts. As discussed under Threshold "a" above, the Project would not cause a substantial adverse change in the significance of a TCR that is listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1[k], or determined by the County to be significant pursuant to criteria set forth in subdivision [c] of PRC Section 5024.1), either directly or indirectly. This finding is the result of zero resources located within the Project's direct or indirect impact having been documented as associated with any sites or trail segments of the PTNCL and, thus, not contributing to the historical significance of the PTNCL. Due to their widespread occurrences, removal of these resources would not alter the PTNCL's ability to convey its historical significance. However, the addition of more industrial components to the Chuckwalla Valley as a result of the Project contributes in a small but measurable way to create a visual intrusion upon the setting of the PTNCL, particularly from character defining features within the landscape. To mitigate such visual impacts, the Project would implement Mitigation Measures TCR-1, MM TCR-2, CUL-1 through MM CUL-7 (see Section 3.6.4), and MM VIS-1 (see Section 3.2.4), which would avoid and minimize impacts to archaeological resources and employ design elements that reduce the Project's visual contrast to characteristics of the environment, reducing project-level impacts to less than significant. Cumulative projects would likely be required to implement similar measures. However, while the implementation of these mitigation measures helps to reduce the Project's contribution to adverse visual impacts upon the PTNCL as a resource, seen in combination with past projects, other current projects, and probable future projects, cumulative visual impacts to the PTNCL would remain significant, and the Project's incremental contribution would be cumulatively considerable.

3.20.4 Mitigation Measures

The following Mitigation Measures would ensure that impacts remain less than significant in the event of an unanticipated discovery of a tribal cultural resource eligible for listing in the CRHR or determined to be significant pursuant to the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

MM TCR-1 **Native American Monitor** Prior to the issuance of grading permits, the developer/permit applicant shall enter into an agreement with the consulting tribe(s) for a Native American Monitor. The Native American Monitor(s) shall be on-site during all initial ground disturbing activities and excavation of each portion of the project site including clearing, grubbing, tree removals, grading and trenching. In conjunction with the Archaeological Monitor(s), the Native American Monitor(s) shall have the authority to temporarily divert, redirect or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources. The developer/permit applicant shall submit a fully executed copy of the agreement to the County Archaeologist to ensure compliance with this condition of approval. Upon verification, the Archaeologist shall clear this condition.

This agreement shall not modify any condition of approval or mitigation measure.

MM TCR-2 **Artifact Disposition** Prior to Grading Permit Final Inspection, the landowner(s) shall relinquish ownership of all cultural resources that are unearthed on the Project property during any ground-disturbing activities, including previous investigations and/or Phase III data recovery.

Historic Resources- all historic archaeological materials recovered during the archaeological investigations (this includes collections made during an earlier project, such as testing of archaeological sites that took place years ago), shall be curated at the Western Science Center, a Riverside County curation facility that meets State Resources Department Office of Historic Preservation Guidelines for the Curation of Archaeological Resources ensuring access and use pursuant to the Guidelines.

Prehistoric Resources - One of the following treatments shall be applied.

a. Reburial of the resources on the Project property. The measures for reburial shall include, at least, the following: Measures to protect the reburial area from any future impacts. Reburial shall not occur until all required cataloguing, analysis and studies have been completed on the cultural resources, with an exception that sacred items, burial goods and Native American human remains are excluded. Any reburial processes shall be culturally appropriate. Listing of contents and location of the reburial shall be included in the confidential Phase IV Report. The Phase IV Report shall be filed with the County under a confidential cover and not subject to a Public Records Request.

b. If reburial is not agreed upon by the Consulting Tribes then the resources shall be curated at a culturally appropriate manner at the Western Science Center, a Riverside County curation facility that meets State Resources Department Office of Historic Preservation Guidelines for the Curation of Archaeological Resources ensuring access and use pursuant to the Guidelines. The collection and associated records shall be transferred, including title, and are to be accompanied by payment of the fees necessary for permanent curation. Evidence of curation in the form of a letter from the curation facility stating that subject archaeological materials have been received and that all fees have been paid, shall be provided by the landowner to the County. There shall be no destructive or invasive testing on sacred items, burial goods and Native American human remains.

MM CUL-1 **Project Archaeologist.** Prior to issuance of grading permits: The applicant/developer shall provide evidence to the County of Riverside Planning Department that a County certified professional archaeologist (Project Archaeologist) has been contracted to implement a Cultural Resource Monitoring Program (CRMP). A Cultural Resource Monitoring Plan shall be developed that addresses the details of all activities and provides procedures that must be followed in order to reduce the impacts to cultural and historic resources to a level that is less than significant as well as address potential impacts to undiscovered buried archaeological resources associated with this project. A fully executed copy of the contract and a wet-signed copy of the Monitoring Plan shall be provided to the County Archaeologist to ensure compliance with this condition of approval.

Working directly under the Project Archaeologist, an adequate number of qualified Archaeological Monitors shall be present to ensure that all earth moving activities are observed and shall be on-site during all grading activities for areas to be monitored including off-site improvements. Inspections will vary based on the rate of excavation, the

materials excavated, and the presence and abundance of artifacts and features. The frequency and location of inspections will be determined by the Project Archaeologist.

MM CUL-2 **Develop and Implement Cultural Resources Environmental Awareness Training.** Prior to issuance of a Notice to Proceed by the County and for the duration of ground disturbance (as defined in MM CUL-4), the Applicant shall provide Worker Environmental Awareness Program (WEAP) training to all workers prior to beginning work at the Project site. The training shall be prepared by the Cultural Resources Specialist (CRS), may be conducted by any member of the archaeological team, and may be presented in the form of an annotated and narrated digital slide show. Tribal representatives will be given the opportunity to participate in the WEAP training. The CRS shall be available (by telephone or in person) to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended, but must be resumed if ground disturbance resumes. Training shall include the following:

- A discussion of applicable laws and penalties under the law
- Samples or visuals of artifacts that might be found in the Project vicinity
- A brief review of the cultural sensitivity of the Project and the surrounding area
- A discussion of what such artifacts may look like when partially buried, or wholly buried and then freshly exposed
- A discussion of what prehistoric and historical archaeological deposits look like at the surface and when exposed during construction, and the range of variation in the appearance of such deposits
- Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery and shall contact their supervisor and the CRS or supervisory cultural resource field staff, and that redirection of work would be determined by the construction supervisor and the CRS.
- Instruction that the CRS, alternate CRS, and supervisory cultural resource field staff have the authority to halt ground disturbance in the area of a discovery to an extent sufficient to ensure that the resource is protected from further impacts, as determined by the CRS
- An informational brochure that identifies reporting procedures in the event of a discovery
- An acknowledgment form signed by each worker indicating that they have received the training
- A sticker that shall be placed on hard hats indicating that WEAP training has been completed

This is a mandatory training, and all construction personnel must attend prior to beginning work on the Project site. A copy of the sign-in sheet shall be kept ensuring compliance with this measure. No ground disturbance shall occur prior to implementation of the WEAP training unless such activities are specifically approved by the County.

MM CUL-3 **Cultural Resources Monitoring and Treatment Plan.** Prior to the start of construction, the Cultural Resources Specialist (CRS) shall develop a Cultural Resources Monitoring and Treatment Plan (CRMTP) that addresses the details of all activities and provides

procedures that must be followed to reduce the potential impacts to undiscovered buried archaeological resources associated with the Project.

The CRMTP shall describe a program for avoiding and monitoring undiscovered National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) eligible cultural resources that can be avoided during Project construction. The CRMTP may require that protective fencing or other markers, at the discretion of the County, be erected and maintained to protect these resources from inadvertent adverse effects during construction. The CRMTP shall also include maps and narrative discussion of areas considered to be of high sensitivity for discovery of buried archaeological resources, if any. The CRMTP shall detail provisions for monitoring construction activities in these high-sensitivity areas. It shall also detail the methods, consultation procedures, and timelines for addressing all post-review discoveries.

1) Pursuant to 14 C.C.R 15126.4(b), the CRMTP shall specify that preservation in place is the preferred method of mitigating impacts in the event of an unanticipated discovery of an archaeological site determined to be a historical resource. Potential means of preservation in place include but are not limited to: Planning construction to avoid the archaeological site
2) Deeding the archaeological site to a permanent conservation easement
3) Capping or covering the archaeological site with a layer of chemically stable soil before building facilities on it; or
4) Incorporating the site within parks, green space, or other open space.

When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken, as further specified below.

The CRMTP shall identify person(s) expected to perform any monitoring tasks, their responsibilities, and the reporting relationships between Project construction management and the mitigation and monitoring team. It shall also specify monitoring reporting and what forms/documentation needs to be completed daily during monitoring.

The CRS shall manage all monitoring, mitigation, curation, and reporting activities under the CRMTP. The Applicant shall ensure that the CRS makes recommendations regarding the eligibility for listing in the NRHP and CRHR of any cultural resources that are newly discovered or that may be affected in an unanticipated manner.

The CRMTP shall address the authority to halt ground disturbance during construction. If a cultural resource over 50 years of age is found, or impacts to such a resource can be anticipated, ground disturbance shall be halted or redirected in the immediate vicinity of the discovery sufficient to ensure that the resource is protected from further impacts. Monitoring and reporting shall continue during the Project's ground-disturbing activities elsewhere. Additional procedures regarding halting ground disturbance to address a post-review discovery or unanticipated effects shall be described in the CRMTP.

The CRMTP shall include, but not be limited to, the following elements, and shall be consistent with all other mitigation measures contained in this document:

- Preparation and implementation of a data recovery plan to be used to guide the data recovery and disposition of any historical or Tribal Cultural Resource (as defined under the California Environmental Quality Act) that may be encountered during construction and that cannot be avoided or preserved in place. The data recovery plan shall include, minimally, a regional cultural setting, appropriate regional research questions, field and laboratory methods for the data recovery effort, and analysis and reporting requirements. The data recovery plan shall include treatment measures that focus on recovering information related to tribal values as they are conveyed through archaeological data. The treatment measures shall be developed through consultation among traditionally culturally affiliated tribes and the County. Treatment measures may include detailed resource documentation, preparation of interpretative or educational materials, reburial of artifacts that convey tribal values, or other measures identified in coordination with the tribes and the landowner.

Following implementation of data recovery and other treatment protocols, a report documenting the methods and results of the data recovery and treatment program shall be prepared by a Secretary of the Interior-qualified archaeologist and shall be submitted to the County for review and approval.

MM CUL-4 **Archaeological Monitoring.** A qualified lead archaeological monitor that meets the Secretary of the Interior's Professional Qualifications Standards (as defined in Title 36 Code of Federal Regulations Part 61), shall be present for initial grading activities in undisturbed soil. If additional archaeological monitors are needed, they do not need to have the same qualifications, but may work under the supervision of the lead archaeological monitor; in such cases the lead archaeological monitor must be on site. Daily monitoring forms will be completed by the archaeological monitor(s) and the CRS will be responsible for retaining, editing, and compiling them. Agencies will be provided with a compilation of the daily reports monthly. The lead archaeological monitor will have the authority to increase or decrease the monitoring effort should the monitoring results indicate that a change is warranted.

MM CUL-5 **Unanticipated Resources.** The developer/permit holder or any successor in interest shall comply with the following for the life of this permit.

If during ground disturbance activities, unanticipated cultural resources* are discovered, the following procedures shall be followed:

All ground disturbance activities within 100 feet of the discovered cultural resource shall be halted and the applicant shall call the County Archaeologist immediately upon discovery of the cultural resource. A meeting shall be convened between the developer, the project archaeologist**, the Native American tribal representative (or other appropriate ethnic/cultural group representative), and the County Archaeologist to discuss the significance of the find. At the meeting with the aforementioned parties, a decision is to be made, with the concurrence of the County Archaeologist, as to the appropriate treatment (documentation, recovery, avoidance, etc.) for the cultural resource. Resource evaluations shall be limited to nondestructive analysis.

Further ground disturbance shall not resume within the area of the discovery until the appropriate treatment has been accomplished.

* A cultural resource site is defined, for this condition, as being a feature and/or three or more artifacts in close association with each other.

** If not already employed by the project developer, a County approved archaeologist shall be employed by the project developer to assess the significance of the cultural resource, attend the meeting described above, and continue monitoring of all future site grading activities as necessary.

MM CUL-6 **Human Remains.** If human remains are found on this site, the developer/permit holder or any successor in interest shall comply with State Health and Safety Code Section 7050.5.

MM CUL-7 **Phase IV Monitoring Report.** Prior to Grading Permit Final Inspection, a Phase IV Cultural Resources Monitoring Report shall be submitted that complies with the Riverside County Planning Department's requirements for such reports for all ground disturbing activities associated with this grading permit. The report shall follow the County of Riverside Planning Department Cultural Resources (Archaeological) Investigations Standard Scopes of Work posted on the TLMA website. The report shall include results of any feature relocation or residue analysis required as well as evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting and evidence that any artifacts have been treated in accordance to procedures stipulated in the Cultural Resources Management Plan.

3.20.5 References

County of Riverside. 2015. "Multipurpose Open Space Element." Chapter 5 in *Riverside County General Plan*. December 8, 2015. Accessed March 2023. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-general-Plan-2017-elements-OCT17-Ch05-MOSE-120815.pdf.

County of Riverside. 2021. *Desert Center Area Plan.* Revised September 28, 2021. Accessed May 2023. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-GPA-2022-Compiled-DCAP-4-2022-rev-6-2022.pdf.

McDougall, D., K. Knabb, T. Clark, and M. Tennyson. 2023. *Draft Phase I Cultural Resources Assessment: Sapphire Solar Project, Riverside County, California*. Technical Report No. 22-0544. Prepared for County of Riverside, Planning Department, Riverside, California, and Sapphire Solar, LLC., San Diego, California. San Diego, California: PaleoWest, LLC. April 12, 2023.

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3.21 Utilities and Service Systems

This section includes an analysis of the impacts on utilities and service systems that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning the proposed project (Project). The analysis in this section describes the applicable regulations, presents an overview of existing conditions that influence utilities and service systems, identifies the criteria used for determining the significance of environmental impacts, and describes the Project's potential impacts to utilities and service systems. Information below is sourced from publicly available resources as well as a Water Supply Assessment (WSA) and Hazardous Waste Business Plan that were prepared for the Project (Appendices E and M).

3.21.1 Regulatory Framework

Federal Laws, Regulations, and Policies

There are no federal regulations, plans, or standards for utilities and service systems that apply to the Project.

State Laws, Regulations, and Policies

California Energy Commission

The California Energy Commission (CEC) is the state's primary energy policy and planning agency. Created in 1974, the CEC has five major responsibilities: forecasting future energy needs and keeping historical energy data, licensing thermal power plants 50 megawatts (MW) or larger, promoting energy efficiency through appliance and building standards, developing energy technologies and supporting renewable energy, and planning for and directing the state response to energy emergencies.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises. In 1911, the CPUC was established by Constitutional Amendment as the Railroad Commission. In 1912, the Legislature passed the Public Utilities Act, expanding the Railroad Commission's regulatory authority to include natural gas, electric, telephone, and water companies as well as railroads and marine transportation companies. In 1946, the Railroad Commission was renamed the California Public Utilities Commission. It is tasked with ensuring safe, reliable utility service is available to consumers, setting retail energy rates, and protecting against fraud.

California Integrated Waste Management Act of 1989. Assembly Bill 939 codified the California Integrated Waste Management Act of 1989 (IWMA) in the California Public Resources Code and established a hierarchy to help the California Integrated Waste Management Board and local agencies implement three major priorities under the IWMA: source reductions, recycling and composting, and environmentally safe transformation and land disposal. Waste diversion mandates are included under these priorities. After the California Integrated Waste Management Board was abolished in 2010, its duties and responsibilities were transferred to the California Department of Resources Recycling and Recovery (CalRecycle), but all other aspects of the IWMA remain unchanged.

The IWMA requires all local and county governments to adopt a waste reduction measure designed to manage and reduce the amount of solid waste sent to landfills. This act established solid waste reduction goals of 25% by the year 1995 and 50% by the year 2000. Senate Bill 1016 (2007) streamlines the process

of goal measurement related to Assembly Bill 939 by using a disposal-based indicator: the per capita disposal rate. The per capita disposal rate uses only two factors: (1) the jurisdiction's population (employment can be considered in place of population in certain circumstances) and (2) the jurisdiction's disposal as reported by disposal facilities. CalRecycle encourages reduction measures through legislation, infrastructure, and support of local requirements for new developments to include areas for waste disposal and recycling on site.

California Department of Toxic Substances Control. The Department of Toxic Substances Control (DTSC) is a department of the California Environmental Protection Agency and is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of the Resource Conservation and Recovery Act and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. DTSC recently finalized revisions to its hazardous waste regulations (revisions in 22 CCR Division 4.5, Chapters 10, 11, and 23) that will allow photovoltaic solar panels to be managed as "universal waste" beginning on January 1, 2021. By being classified as universal waste, photovoltaic solar panels will now be subject to a streamlined set of standards that are intended to ease the regulatory burden and promote recycling.

California Code of Regulations (Title 27). Title 27 (Environmental Protection) of the California Code of Regulations (CCR) defines regulations and minimum standards for the treatment, storage, processing, and disposal of solid waste at disposal sites. The State Water Resources Control Board maintains and regulates compliance with Title 27 of the CCR by establishing waste and site classifications and waste management requirements for solid waste treatment, storage, or disposal in landfills, surface impoundments, waste piles, and land treatment units. The compliance of the Project would be enforced by the Colorado River Regional Water Quality Control Board Region 7 and CalRecycle. Compost facilities are regulated by CalRecycle under Title 14 of the CCR, Division 7, Chapter 3.1, Sections 17850 through 17895. Permit requests, reports of waste discharge, and reports of disposal site information are submitted to the Regional Water Quality Control Board and CalRecycle, and are used by the two agencies to review, permit, and monitor these facilities.

California Green Building Standards Code (Section 5.408). In 2007, the California Building Standards Commission developed the California Green Building Standards Code (CALGreen) to meet the goals of Assembly Bill 32, which established a comprehensive program of cost-effective reductions of greenhouse gases to 1990 levels by 2020. Section 5.408, Construction Waste Reduction, Disposal, and Recycling, outlines protocols and standards and describes the intent, compliance methods, and enforcement methods for each code requirement to minimize waste and encourage recycling (CBSC 2023).

Senate Bills 610 and 221

Senate Bill (SB) 610 and SB 221, passed in 2001, are companion measures that seek to promote more collaborative planning among local water suppliers, cities, and counties. They require that water supply assessments occur early in the land use planning process for all large-scale development projects. If groundwater is the proposed supply source, the required assessments must include detailed analyses of historic, current, and projected groundwater pumping and an evaluation of the sufficiency of the groundwater basin to sustain a new project's demands. They also require an identification of existing water entitlements, rights, and a quantification of the prior year's water deliveries. In addition, the supply and demand analysis must address water supplies during normal, single and multiple dry years, presented in 5-year increments for a 20-year projection. In accordance with these measures, a Water Supply Assessment (WSA) is required for a proposed industrial, manufacturing, or processing plant that would

house more than 1,000 persons; occupy more than 40 acres of land; or have more than 650,000 square feet of floor area (California Water Code, Section 10912).

Local Laws, Regulations, and Policies

Countywide Integrated Waste Management Plan. The Riverside County (County) Countywide Integrated Waste Management Plan demonstrates the County's compliance with the IWMA's solid waste planning requirements. The Summary Plan Element of the County Integrated Waste Management Plan presents goals, policies, and measures to divert 50% of solid waste from landfills; this plan is updated annually. The Countywide Siting Element is required to demonstrate that at least 15 years of disposal capacity is available to serve all jurisdictions within the County. If the County's annual report to CalRecycle shows there is less than 15 years of remaining disposal capacity, the County must identify new or expanded solid waste disposal and transformation facilities necessary to provide the required permitted disposal capacity (14 CCR 18755).

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.

3.21.2 Environmental Setting

Solid Waste Services

Table 3.21-1 lists the capacities of the active landfills near the Desert Center area. The closest landfill to the Project site is the Desert Center Sanitary Landfill, located less than 1 mile to the west of the solar panel site.

Table 3.21-1. Landfill Capacities

Landfill Name	Total Capacity (cubic yards)	Remaining Capacity (cubic yards)	Remaining Capacity (%)	Maximum Throughput (tons/day)	Distance to Project Site
Desert Center Sanitary Landfill (Cease operation estimated 2107)	409,112	127,414	31.14	60	<1 mile west
Blythe Sanitary Landfill (Cease operation estimated 2047)	6,003,343	3,271,203	54.4	400	43 miles east

Sources: CalRecycle 2023a, 2023b.

Utilities

Water supply in the Desert Center area is primarily provided from extracted groundwater out of the Chuckwalla Valley Groundwater Basin (CVGB), an unadjudicated groundwater basin, either from private wells or a nearby water system. The County has 60 County Service Areas, some of which provide utility and public services to unincorporated areas. Either way, water would be sourced from groundwater. If either or both of the existing two on-site wells are not used, there are multiple other groundwater supply sources in proximity to the Project site. Current groundwater extraction in the CVGB occurs primarily in the western portion of the basin where the majority of groundwater wells are located (see Figure 3 of Appendix E). Groundwater demands in the CVGB include water for solar facilities, the Lake Tamarisk development and golf course, Chuckwalla Valley Raceway, Ironwood State Prison, Chuckwalla State Prison, agricultural

irrigation, and domestic use. Wells in the vicinity of the Project site include Chuckwalla Valley Raceway Monitoring Well, located approximately 1.5 miles southeast; Green Acres Mobile Home Park Well, located approximately 1 mile south; and Well CSA-51, located approximately 1.5 miles southwest (Appendix E). Although on-site groundwater wells are identified as a primary water source for the Project, these other water sources could potentially serve as additional sources for the Project's water demand.

The Project site is located in a rural unincorporated area with no existing wastewater infrastructure. Wastewater is generally collected and disposed of in septic tanks and not transported or treated at a centralized treatment plant.

Southern California Edison provides electricity to the Desert Center and surrounding areas. An existing Eagle Crest to Blythe 161 kV transmission line bisects the Project site (SCE 2023) diagonally southeast to northwest. A distribution line runs parallel to the transmission line. Several distribution lines branch off the existing diagonal this parallel distribution line and extends west and south across the Project site. In addition, there are existing transmission lines along State Route 177 (approximately 400 feet southeast of the solar site) and Kaiser Road (approximately 1 mile west of solar site). Furthermore, there is an existing distribution line extending from the transmission line on Kaiser Road east to the existing aquaculture facility.

Southern California Gas Company provides natural gas to the area. There is an existing Southern California Gas Company transmission line that roughly parallels State Highway 10 approximately 3.5 miles south of the Project site (SoCalGas 2023).

Telecommunications are provided by AT&T, T-Mobile, Verizon, and Sprint.

3.21.3 Impact Analysis

Methodology

This section considers the potential impact to and disruption of utilities and service systems in the Desert Center area during construction, operation, and future decommissioning of the Project. The analysis is based on Project characteristics, publicly available information, and the WSA that was prepared for the Project (Appendix E).

Criteria for Determining Significance

Section XIX of Appendix G to the California Environmental Quality Act (CEQA) Guidelines addresses typical adverse effects to utilities and service systems and includes the following threshold questions to evaluate a project's impacts on utilities and service systems. Would the project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

c) Result in a determination by the waste water 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?

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Significance thresholds, set forth in the County's Environmental Assessment Checklist, are derived from Section XIX of Appendix G to the State CEQA Guidelines (listed above), and state that the Project would have a significant impact on utilities if the Project or any Project related component would:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage systems, whereby the construction or relocation would cause significant environmental effects?

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

c) Require or result in the construction of new wastewater treatment facilities, including septic systems, or expansion of existing facilities, whereby the construction or relocation would cause significant environmental effects?

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

e) Generate solid waste in excess of State or Local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

f) Comply with federal, state, and local management and reduction statutes and regulations related to solid wastes including the CIWMP (County Integrated Waste Management Plan)?

g) Impact the following facilities requiring or resulting in the construction of new facilities or the expansion of existing facilities, whereby the construction or relocation would cause significant environmental effects?

   i. Electricity?

   ii. Natural gas?

   iii. Communication systems?

   iv. Street lighting?

   v. Maintenance of public facilities, including roads?

   vi. Other government services?

Environmental Impacts

This section includes an examination of the Project's impacts to utilities and service systems per the County's Environmental Assessment Checklist and Appendix G of the State CEQA Guidelines identified above.

Threshold a: Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage systems, whereby the construction or relocation would cause significant environmental effects?

LESS THAN SIGNIFICANT IMPACT. The Project would not require or result in the relocation or construction of new water or wastewater treatment systems during construction, operation, maintenance, and future decommissioning because the Project would not be connected to a public water or sewer system.

The Project would not be connected to a public sewer system so it would not cause wastewater that would be treated in an existing wastewater treatment plant. A septic system and leach field would be located at the operations and maintenance (O&M) building to serve the Project's sanitary and wastewater treatment needs. Additionally, temporary sanitary facilities would be installed for the construction period of the Project. These facilities would be installed in accordance with state requirements and emptied as needed by a contracted wastewater service vehicle.

Construction of the Project would alter drainage patterns and would be subject to regulatory requirements for stormwater drainage control as discussed more thoroughly in Section 3.11, Hydrology and Water Quality. While grading would be required for various components of the Project (i.e., roads, O&M building, substation, etc.), the Project site is relatively flat from the precious jojoba farm (now fallow) and the overall topography and drainage patterns would remain similar to existing conditions such that sheet flow would be maintained where possible, some drainage control measures would be implemented on the site. Construction of the Project would disturb more than 1 acre and therefore is required to comply with the National Pollutant Discharge Elimination System (NPDES) program. The Project would design and submit a site-specific Stormwater Pollution Prevention Plan (SWPPP) to minimize the discharge of stormwater during construction. Post-construction best management practices (BMPs) would be required to be implemented at the site and may include, but not be limited to, spill and overflow protection, stormwater control (e.g., detention basins), and other operational measures intended to protect water quality (e.g., spill prevention measures, preventative maintenance on equipment, and spill response measures). Future decommissioning of the Project would also require minimal ground-disturbing activities associated with removal of aboveground facilities including solar panels, panel supports, and the supporting electrical and facility systems. However, all ground-disturbing activities associated with future decommissioning would be in accordance with the requirements of the appropriate governing authorities and all applicable federal, state, and County regulations and likely include implementation of BMPs in a SWPPP. (See also Section 3.11 for more discussion on BMPs and SWPPP requirements.) Following removal of equipment, the site would be restored as part of the Project in accordance with applicable post-construction BMP requirements, where stormwater runoff conditions would likely be returned to approximate pre-Project conditions.

Preparation and implementation of the SWPPP and BMPs contained therein would ensure that the Project would not result in significant environmental effects from the construction of new stormwater drainage facilities. Therefore, impacts related to relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage systems would be less than significant.

Threshold b: Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

LESS THAN SIGNIFICANT IMPACT. The majority of water use for the Project would occur during the initial 12- to 18-month construction phase. The water demand for the construction of the Project is expected to be between 100 and 300 acre-feet total for the anticipated construction period. Construction water would be used primarily for dust control and soil compaction, with minor amounts for sanitary and other purposes. Water truck refilling stations (if required) would be established for dust control and other construction purposes. Daily water use would vary, depending on the weather conditions and time of year, both of which affect the need for dust control: hot, dry, windy conditions would require greater amounts of water. Tanker trucks would apply water to construction areas to aid in road compaction and reduce construction-generated dust where needed. Construction worker needs—including water for drinking and for sanitation facilities—would require a minimal amount of water. This water would be trucked in or delivered as bottled drinking water. As noted in the analysis above, a local sanitation

company would provide and maintain appropriate construction sanitation facilities, including portable toilets and sinks. Once constructed, the average total annual water usage during operation is estimated to be up to 9 acre-feet per year (AFY) for the assumed 39 years of operation. Water use during operations would be primarily for panel washing, restrooms, fire safety, and general maintenance activities.

The Project's water demands would be met by use of groundwater pumped from on- or off-site wells, purchased from a local water purveyor, or some combination of the two. Whether purchased or directly pumped from on- or off-site wells, all water needs would be met by groundwater from the underlying CVGB. The CVGB is an unadjudicated basin, meaning that owners of property overlying the CVGB have the right to pump groundwater from the basin for reasonable and beneficial use

As previously mentioned, a Project-specific WSA (Appendix E) was completed for the Project. The WSA was completed assuming the Project would operate for an estimated 39 years. Based on an estimated baseline water budget for CVGB under normal-year, single-dry-year, and for year one of a multiple-dry-year condition, there would be an estimated groundwater surplus of 2,159 AFY, 12 AFY, and 871 AFY, respectively. However, for the second and third years of a multiple-dry-year condition, there is an estimated groundwater deficit of -417 AFY, and -1,706 AFY, respectively. However, as discussed in the WSA, deficits during drought years are generally made up by the surplus that occurs during normal and above-normal precipitation years. The reduction in groundwater in storage that is estimated to occur during the second and third years of multiple-dry-year conditions, would be relatively small (≤0.0187%) compared to the total volume of groundwater in storage, which could be easily erased during normal and above-normal water years. In addition, groundwater levels in the CVGB appear to be relatively stable across the basin and have remained so even during periods of below-average precipitation, such as the 2014 to 2016 water years, and despite high temporary water demands during solar site construction for other solar projects (Appendix E).

The calculated groundwater budget in the WSA was estimated based on existing groundwater extraction plus the operational water planning use estimates of solar projects in the basin that are currently in operation. According to monitoring efforts of some of these existing projects, actual water use for both construction and operation is actually substantially lower than the planned estimates (Appendix E).For example, the Palen Solar Project estimated needing 1,750 AF for construction and metered use was actually 435 AF, approximately 25% of the estimate (Appendix E). Operational use for Palen was estimated at 41 AFY and the metered use has only been 2 AFY (Appendix E). The Genesis, Desert Sunlight, and Desert Harvest solar projects also had reductions in actual operational use compared to estimates (Appendix E).

The findings of the WSA also found that overdraft of the CVGB would only occur after 10 years of groundwater outflow exceeding inflow, either as a consequence of 10 years of below-average precipitation (i.e., a 10-year drought) or if groundwater extraction in the CVGB were to increase significantly, such as for construction and operation of the proposed Eagle Mountain Pumped Storage Project, neither of which are considered likely to occur at this time (Appendix E).[1] The WSA included consideration of updated water demands of other constructed projects and reasonably foreseeable projects and concluded that the CVGB is not forecasted to be in overdraft for at least the next 20 years,

[1] Although the Eagle Mountain Pumped Storage Project is still under consideration, the likelihood of it commencing construction in the foreseeable future is very low. The Federal Energy Regulatory Commission recently extended the Eagle Mountain Pumped Storage Project's commencement of construction and completion of construction deadlines to 2028 and 2031, respectively. In addition, legal challenges remain pending before the Interior Board of Land Appeals and the United States District Court for the Eastern District of California (Appendix E).

according to the estimated water budget. According to the future water budget for the CVGB that includes the Project along with constructed and planned projects (including the Eagle Mountain Pumped Storage Project), there would be a groundwater deficit of -1,201 AFY (normal-year) to -5,066 AFY (third year of multiple-dry-year) when the water demand of all proposed projects and projects currently under construction are included. When the water demand of the Eagle Mountain Pumped Storage Project is excluded from the future water budget, as is considered more realistic for near term conditions, there is an estimated groundwater surplus of 1,859 AFY and 571 AFY for normal-year and year one of a multiple-dry-year condition, respectively. However, for a single-dry-year and for the second and third years of a multiple-dry- year condition, there is an estimated groundwater deficit of -288 AFY, -717 AFY, and -2,006 AFY. Again, the surplus years that would occur under normal and above-normal years are considered able to compensate for any deficits that could occur during multiple dry-year scenarios; once construction of planned solar projects are complete, the operational use represents a far lower demand. In addition, the WSA reviewed other existing solar projects and determined that actual construction and operational water use was found to be substantially lower than estimated during planning stages (Table 8 in Appendix E). As a result, based on the analysis from the WSA, which concluded that the Project's demand represents a relatively small demand, and the conditions of the CVGB, the Project alone would not cause nor contribute to a groundwater deficit. Therefore, there would be sufficient water supplies under normal, single-dry-year, and multiple dry-year scenarios to meet the water demands of the Project and the potential impact is considered less than significant.

Threshold c: Would the project require or result in the construction of new wastewater treatment facilities, including septic systems, or expansion of existing facilities, whereby the construction or relocation would cause significant environmental effects?

LESS THAN SIGNIFICANT IMPACT. The Project would not be connected to a public sewer system. Construction of the Project would generate a minimal volume of wastewater. During construction activity, wastewater contained within portable toilet facilities and portable hand washing facilities would be disposed of at an approved off-site disposal site. As noted above, the Project would require the construction of a septic system for disposal of wastewater associated with the O&M building. The septic system would be permitted and constructed in accordance with all applicable County requirements. Therefore, construction of the Project would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

Threshold d: Would the project result in a determination by the wastewater treatment provider that serves or may service the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

NO IMPACT. As noted above under Thresholds "a" and "b," the Project would only use an on-site septic system and would not include any off-site discharge of wastewater. Thus, there would be no impact related to wastewater treatment provider capacity.

Threshold e: Would the project generate solid waste in excess of State or Local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

LESS THAN SIGNIFICANT IMPACT. The Project would generate solid waste during construction, operation, maintenance, and future decommissioning. The County must comply with CALGreen, which includes mandatory recycling for construction projects. Section 5.408 of CALGreen requires that 65% of the nonhazardous waste from construction be recycled or salvaged for reuse. Section 5.408.3 (excavated soil and land clearing debris) requires that 100% of trees, stumps, rocks, and associated vegetation and soils resulting from land clearing be reused or recycled.

The Project site consists of relatively flat topography; as a result, cut and fill soils associated with construction-related grading activities are anticipated to be limited. As such, minimal import and export of soils to a landfill would be necessary. Construction materials would be sorted on site throughout construction and transported to appropriate waste management facilities in accordance with a construction waste management plan prepared for the Project as required by CALGreen Section 5.408.1.1 and consistent with the County Integrated Waste Management Plan (Appendix N, Construction Waste Management and Recycling Plan). Recyclable materials would be separated from non-recyclable items and stored until they could be transported to a designated recycling facility. It is anticipated that at least 65% of construction waste would be recyclable (Appendix N). Wooden construction waste (such as wood from wood pallets) would be sold, recycled, or chipped and composted. Within the solar fields, roadways, and areas around the O&M building, management of vegetation would include composting and retaining on site. Non-hazardous construction materials that cannot be reused or recycled would likely be disposed of at the municipal County landfills. Hazardous waste and electronic waste would not be placed in a landfill, but would be transported to a hazardous waste handling facility. All contractors and workers would be educated about waste sorting, appropriate recycling storage areas, and how to reduce landfill waste.

Non-hazardous waste generated during operation of the Project would be limited to office uses associated with the proposed O&M building and include paper, aluminum, food, and plastic and would be managed similarly to during construction, with non-hazardous items being recycled where possible or otherwise disposed of at the municipal County landfills.

During operations, if needed, and during future decommissioning, solar panels would be removed and placed in secure transport crates or container boxes for storage, and then transported to another facility for reuse, material recycling, or disposal. Solar panels are managed as universal waste and would need to be disposed of under the appropriate California standards applicable at the time.

During future decommissioning, the infrastructure would be disassembled, removed, and salvaged or recycled according to the regulations in place at the time. As noted in Chapter 2, Description of the Project, all materials would be recycled to the greatest extent possible in appropriate recycling facilities.

The closest landfill to the Project site is the Desert Center Sanitary Landfill (located less than 1 mile west), with a remaining capacity of 127,414 cubic yards. It is estimated to operate until year 2107. The second closest landfill is the Blythe Sanitary Landfill (located approximately 43 miles east), which has more than 3.2 million cubic yards of capacity remaining (see Table 3.21-1). The Project would comply with applicable federal, state, and local regulations related to solid waste, and because sufficient capacity is anticipated at the two nearest waste disposal sites, the potential impacts related to solid waste would be less than significant.

Threshold f: Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid wastes including the CIWMP (County Integrated Waste Management Plan)?

LESS THAN SIGNIFICANT IMPACT. Construction, operation, maintenance, and decommissioning of the Project would comply with and attain the goals outlined in CALGreen including Section 5.408. At least 75% of construction waste would be recyclable, and it is anticipated that most of this waste would be recycled to meet the goals of CALGreen. Compliance with the requirements and standards of CALGreen would further the state's goals to minimize waste, increase recycling efforts, and reduce greenhouse gases. Waste reduction and recycling efforts would minimize the Project's impacts to the surrounding landfills in the area. Additionally, waste reduction actions during all phases of the Project would help the local and County governments meet the goals of the IWMA and comply with regulations outlined in Title 27 of the CCR.

During operation of the Project, the relatively small number of permanent workers (approximately eight) would generate relatively small amounts of solid waste (most likely in the form of paper, aluminum, food, and plastic) such that the waste would be handled sufficiently by existing waste management services and facilities. Disposal of wastes associated with construction, operation, maintenance, and decommissioning of the Project would be performed in accordance with local, state, and federal regulations, and excess materials and waste would be recycled or reused to the maximum extent practicable. As such, the Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. Therefore, impacts related to complying with federal, state, and local solid waste regulations would be less than significant.

Threshold g. Would the project impact the following facilities requiring or resulting in the construction of new facilities or the expansion of existing facilities, whereby the construction or relocation would cause significant environmental effects?

i. Electricity?

NO IMPACT. The Project would construct new solar array panels and generation tie lines and generate up to as much as 117 megawatts. The Project would help increase the generation of renewable energy consistent with the goals of the state as mandated by Senate Bills 1078, 350, and 100 that require 50% of electricity to be sourced from renewable energy by 2030 and 100% by 2045. As a result, there would be no impact related to requiring new or expanded electrical facilities.

ii. Natural gas?

NO IMPACT. The O&M building and substation would include a backup generator and propane tank in the event of a blackout, but would not require a natural gas connection. As a result, there would be no impact related to natural gas facilities**.**

iii. Communication systems?

LESS THAN SIGNIFICANT IMPACT. As detailed in Chapter 2, the Project would require communication systems for operational purposes. All fiber-optic communication lines necessary would be located on the same poles used to support the generation tie line and/or buried in the proposed maintenance road. The Supervisory Control and Data Acquisition system requires a fiber optic transmission system, a telephone, radio and or microwave communications network, and other means of communication such as radio-links and phase loop communication systems. In addition, the Project would include construction of up to one microwave/communication tower that would consist of up to three 6-foot-tall (in circumference) performance microwave dish(es) fixed to a steel monopole of up to 90 feet in height. A 12-foot by 20-foot equipment shelter would also be included within a fenced area. As a result, the potential impact related to construction of the proposed communication systems would be less than significant.

iv. Street lighting?

NO IMPACT. Proposed lighting for the Project would include nighttime lighting for limited areas (e.g., on-site substation and O&M building). Motion-sensitive, directional security lights would be installed to provide adequate illumination around the perimeter of the proposed solar site. Therefore, there would be no impact related to street lighting.

v. Maintenance of public facilities, including roads?

LESS THAN SIGNIFICANT IMPACT. Most construction equipment and vehicles would be brought to the Project site at the beginning of the construction process during mobilization and remain on site throughout the

duration of the construction activities for which they are needed. Generally, the equipment and vehicles would not be driven on public roads while in use. Once constructed, the operation and maintenance activities would require up to just eight workers with very limited deliveries that might be necessary for maintenance of solar panels, the battery storage facility, and other equipment. As also discussed in Section 3.19, Transportation, the nominal operational vehicular trips is not expected to impact the study area roadway network. As a result, there would be very limited use and impact to public facilities including roads, and the impact is considered less than significant.

vi. Other government services?

LESS THAN SIGNIFICANT IMPACT. Other government services, such as fire and police protection, schools, parks, health services, and libraries, and their abilities to provide continued service are largely dependent on permanent increases in population. It is anticipated that Project construction would last 12 to 18 months with an average of 150 employees and a maximum daily workforce of 250 people. However, the workforce would be recruited primarily from within the County. Once constructed, the operational phase of the Project would only require up to eight full- and part-time employees. The Project would not result in or cause population growth sufficient to generate a need for any new or expanded government services due to short-term increase of construction workers and then the relatively minor amount of operation and maintenance staff. Therefore, the potential impact related to government services would be less than significant.

Cumulative Impacts

Geographic Scope. This geographic scope would include all projects listed in Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario.

Cumulative Impacts. The Project combined with other projects in the cumulative scenario, together, could temporarily increase demand for utility services in eastern Riverside County due to new demands associated with these projects. The cumulative projects are predominantly energy facilities that are located in generally sparsely inhabited areas with little existing infrastructure outside of the electrical transmission lines. Water supply would have to be sourced from on-site wells, off-site wells, or trucked in from the region and following construction would have relatively low water demands. Wastewater infrastructure is unlikely to be part of any of these projects as septic systems are more prevalent in this area in addition to the use of portable units. As a result, the Project could not contribute to a cumulative impact related to wastewater facilities or treatment. All projects would be subject to the same or similar stormwater drainage control requirements. Solid waste disposal for cumulative projects, just like the Project, would be required to adhere to the County's solid waste regulations that require recycling. Thus, the Project would not contribute to a cumulatively considerable impact to utilities because the Project and all cumulative projects would be required to comply with the same state and local requirements for waste diversion, recycling, and landfill capacity in the County including the County Integrated Waste Management Plan. The total volume of waste disposed at the Desert Center and Blythe Sanitary Landfills under the cumulative scenario is not expected to exceed the permitted capacity and, therefore, would not result in a cumulatively considerable or significant impact. Accordingly, the Project's incremental solid waste-related impact during construction, operation, maintenance, and future decommissioning, when combined with the contributions of past, present, and reasonably foreseeable future projects, would not be cumulatively considerable or significant.

Regarding water supply, construction and decommissioning water use would be temporary. In addition, according to the WSA that was prepared for the Project that included a review of other existing and planned projects in the groundwater basin, it was determined that quantities would not exceed currently available water supplies during normal year, dry year, or multiple dry year scenarios. During operation,

the Project would require very minimal water supplies for panel washing, maintenance, O&M restroom facilities, and fire safety. The Project would incrementally contribute to a cumulative demand for water supplies. However, the majority of cumulative projects are other solar energy facilities and/or supporting utility infrastructure projects (i.e., transmission lines and substations), which would result in similar temporary and minimal water demand as the Project. In addition, some of the other cumulative projects, like the Project (see Mitigation Measure MM WAT-1 in Section 3.11, Hydrology and Water Quality), include mitigation measures to provide groundwater monitoring to ensure that groundwater levels are not adversely affected by groundwater extraction. Accordingly, the Project's incremental water supply–related impact during construction, operation, maintenance, and future decommissioning, when combined with the contributions of past, present, and reasonably foreseeable future projects, would not be cumulatively considerable or significant.

3.21.4 Mitigation Measures

No mitigation would be required.

3.21.5 References

CalRecycle (California Department of Resources Recycling and Recovery). 2023a. "SWIS Facility/Site Summary, Blythe Sanitary Landfill (33-AA-0017)." Solid Waste Information System (SWIS). Accessed July 13, 2023. https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/2378.

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CBSC (California Building Standards Commission). 2023. *Guide to the 2022 California Green Building Standards Code, Nonresidential*. Accessed July 18, 2023. https://cdn-codes-pdf.iccsafe.org/uploads/bookpdfs/Guide_to_2022_CALGreen_Build_Stand_NonRes_1st_ptg.pdf.

SCE (Southern California Edison). 2023. "Southern California Edison Distribution Resources Plan External Portal (DRPEP)" [online mapping application]. Accessed July 13, 2023. https://drpep.sce.com/drpep/.

SoCalGas (Southern California Gas Company). 2023. "Gas Transmission Pipeline Interactive Map – Riverside" [online mapping application]. Accessed July 13, 2023. https://socalgas.maps.arcgis.com/apps/webappviewer/index.html?id=aaebac8286ea4e4b8e425e47771b8138.

3.22 Wildfire

This section includes an analysis of the impacts to wildfire hazards that may result directly, indirectly, or cumulatively from constructing, operating, maintaining, and decommissioning the proposed project (Project). The analysis in this section describes the applicable regulations, provides information on existing conditions that influence wildfire in and surrounding the Project site, identifies the criteria used for determining the significance of environmental impacts, describes the Project's potential impacts related to wildfire, and lists Mitigation Measures (MMs) that would be incorporated into the Project to avoid and/or substantially lessen to the extent feasible potentially significant impacts. The analysis in this section is based on the Project plans; California Department of Forestry and Fire Protection (CAL FIRE); Riverside County Fire Department Technical Policy #TP 15-002 commercial solar energy systems development standards; the Wildfire Susceptibility Map in the General Plan Safety Element (County of Riverside 2021a); Fire Protection and Safey Plan (Appendix O); Air Quality, Greenhouse Gas Emissions, and Energy Technical Report (Appendix F); and Biological Resources Technical Report (Appendix C).

3.22.1 Regulatory Framework

Federal Laws, Regulations, and Policies

Federal Wildland Fire Management Policy. On Bureau of Land Management (BLM) administered lands in the California desert, BLM implements the Department of the Interior's Federal Wildland Fire Management Policy, which establishes guiding principles and policy statements that guide the philosophy, direction, and implementation of fire management planning, activities, and projects on federal lands. The Federal Wildland Fire Management Policy was developed by a federal multi-agency group that establishes consistent and coordinated fire management policy across multiple federal jurisdictions. The policy acknowledges the essential role of fire in maintaining natural ecosystems, but also prioritizes firefighter and public safety first in every fire management activity and focuses on risk management as a foundation for all fire management activities. The policy promotes basing responses to wildland fires on approved Fire Management Plans and land management plans, regardless of ignition source or the location of the ignition.

National Electrical Safety Code and American National Standards Institute Guidelines. A variety of line and tower clearance standards are used throughout the electric transmission industry. Nationally, most transmission line owners follow the National Electrical Safety Code rules or American National Standards Institute Guidelines, or both, when managing vegetation around transmission system equipment. The National Electrical Safety Code deals with electric safety rules, including transmission wire clearance standards, whereas the applicable American National Standards Institute code deals with the practice of pruning and removal of vegetation.

National Fire Protection Association (NFPA) Standard 855. NFPA 855 was created to address the rise in the use of new technologies in modern energy storage systems (ESSs) and the fire and life safety hazards associated with them. NFPA standardizes criteria for fire protection of ESS installations based on the technology used in the ESS, environmental setting, size and separation of ESS installations, and the fire suppression and control systems in place. It also considers ventilation, detection, signage, listings, and emergency operations responding to ESS emergencies (NFPA 2023).

International Fire Code. The International Fire Code contains regulations to safeguard life and property from fires and explosion hazards. It includes regulations for general precautions, emergency planning and preparedness, fire department access and water supplies, automatic sprinkler systems, fire alarm systems, special hazards, and the storage and use of hazardous materials (International Code Council 2017).

North American Electric Reliability Corporation Reliability Standards. In compliance with Section 215 of the Federal Power Act, the North American Electric Reliability Corporation developed mandatory and enforceable reliability standards such as emergency preparedness and operations; facility design, connections, and maintenance; personnel performance, training, and qualifications; and protection and control. These standards are designed to ensure reliable energy production, as well as safe operation and maintenance (O&M) practices (NERC 2023).

National Fire Plan. The National Fire Plan was developed in 2020 to guide swift and organized response to severe wildland fires and their impacts to communities while ensuring sufficient firefighting capacity. The National Fire Plan addresses firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability. The National Fire Plan provides technical, financial, and resource guidance and support for wildland fire management across the United States (Forests and Rangelands 2023).

Federal Energy Regulatory Commission Standards. The Federal Energy Regulatory Commission requires utilities to adopt and maintain minimum clearance standards between vegetation and transmission voltage power lines. These clearances vary depending on voltage. In most cases, the minimum clearances required in state regulations are greater than the federal requirement. In California, for example, the state has adopted General Order (GO) 95 rather than the North American Electric Reliability Corporation Standards as the electric safety standard for the state. Federal Energy Regulatory Commission standards are not discussed further.

National Electrical Safety Code 2017. The National Electrical Safety Code covers basic provisions related to electric supply stations, overhead electric supply and communication lines, and underground electric supply and communication lines. The code also contains work rules for construction, maintenance, and operational activities associated with electric supply and communication lines and equipment. The code, which must be adopted by states on an individual basis, is not applicable in the State of California. The State of California has adopted its own standard (GO 95) rather than a general national standard. The National Electrical Safety Code is not discussed further.

Institute of Electrical and Electronics Engineers Standards 516-2009. The Institute of Electrical and Electronics Engineers is a leading authority in setting standards for the electric power industry. Standard 516-2009, Guide for Maintenance Methods on Energized Power Lines, establishes minimum vegetation-to-conductor clearances to maintain electrical integrity of the electrical system.

State Laws, Regulations, and Policies

California Fire Plan. The 2018 Strategic Fire Plan for California directs each California Department of Forestry and Fire Protection (CAL FIRE) Unit to prepare a locally specific Fire Management Plan. These documents assess the fire situation within each of CAL FIRE's 21 units and six contract counties. The plans include interested party contributions and priorities and identify strategic areas for pre-fire planning and fuel treatment, as defined by the people who live and work within the local area. The plans are required to be updated annually.

California Department of Forestry and Fire Protection. CAL FIRE is tasked with reducing wildfire-related impacts and enhancing California's resources. CAL FIRE responds to all types of fires, including wildland fires and residential/commercial structure fires. In addition, CAL FIRE is responsible for the protection of approximately 31 million acres of private land within the state and, at the local level, is responsible for inspecting defensible space around private residences. CAL FIRE is responsible for enforcing State of California fire safety codes included in the California Code of Regulations and the PRC. California Code of Regulations, Title 14, Section 1254 identifies minimum clearance requirements required around utility poles.

CAL FIRE also inspects utility facilities and makes recommendations regarding improvements in facility design and infrastructure. Joint inspections of the Project by CAL FIRE and the utility owner are recommended by CAL FIRE so that each entity may assess the current state of the facility and successfully implement fire prevention techniques and policies. Violations of state fire codes discovered during inspections are required to be brought into compliance with the established codes. If a CAL FIRE investigation reveals that a wildfire occurred as a result of a violation of a law or negligence, the responsible party could face criminal charges (CAL FIRE 2023). For cases where a violation of a law or negligence has occurred, CAL FIRE has established the Civil Cost Recovery Program, which requires parties liable for wildfires to pay for wildfire-related damages.

CAL FIRE maps FHSZs based on fuel loading, slope, fire history, weather, and other relevant factors as directed by PRC Sections 4201–4204 and California Government Code Sections 51175–51189. FHSZs are ranked from Moderate to Very High and are categorized for fire protection within a Federal Responsibility Area, State Responsibility Area, or Local Responsibility Area under the jurisdiction of a federal agency, CAL FIRE, or local agency, respectively.

Mutual Aid Agreements. There are multiple regional, state, and local agreements and operating plans currently in use that provide for mutual aid between and among federal, state, and local fire agencies. The statewide mutual aid system exists to ensure that adequate resources, facilities, and other supports are provided to jurisdictions whenever resources prove to be inadequate for a given situation. Each jurisdiction controls its own personnel and facilities but can give and receive help whenever needed.

California Fire Code 2019 Section 1206. California Fire Code 2019 Section 1206 outlines requirements for energy storage systems designed to provide electrical power to a building or facility. Permits shall be obtained prior to the installation and operation of energy storage systems, and construction documents shall provide information related to fire safety, such as the location and layout of the room in which the stationary storage battery system is to be installed; details on hourly fire-resistance-rated assemblies provided; quantities and types of storage batteries and battery systems; manufacturer's specifications, ratings, and listings of storage batteries/systems; details on energy management systems; location and content of signage; details on fire-extinguishing, smoke detection, and ventilation systems; and rack storage arrangement, including seismic support criteria. Additionally, this section establishes standards for the design of stationary storage battery systems, arrays, and signage to enhance fire safety and detect and extinguish fires.

California Public Resources Code (PRC) Section 4292. PRC Section 4292 states that any person that owns, controls, operates, or maintains any electrical transmission or distribution line has primary responsibility for fire protection of such areas, and shall maintain around and adjacent to any pole or tower that supports a switch, fuse, transformer, lightning arrester, line junction, or dead end or corner pole a firebreak that consists of a clearing of not less than 10 feet in each direction from the outer circumference of such a pole or tower. All vegetation shall be cleared within the firebreak.

California Public Utilities Commission (CPUC) GO No. 95. CPUC GO No. 95 formulates for the State of California requirements for overhead line design, construction, and maintenance, the application of which will ensure adequate service and secure safety to persons engaged in the construction, maintenance, operation, or use of overhead lines and to the public in general.

Assembly Bill 1054. Assembly Bill 1054 provides for a Wildfire Fund, which electrical corporations may access upon meeting specific requirements. Electrical corporations must opt into the fund, make financial commitments, and maintain a safety certificate from the CPUC, among other conditions. In July 2019,

Southern California Edison opted into the Wildfire Fund, which requires it to satisfy a burden of proof test and obtain a safety certification by satisfying the conditions of Public Utilities Code Section 8389(e)(1-7).

Public Utilities Code Section 8389(e)(1-7). This section specifies the requirements for an electrical corporation to obtain a safety certification by documenting the following: an approved wildfire mitigation plan, good standing, an established safety committee composed of members with relevant safety experience, an executive incentive compensation structure to promote safety as a priority, an established board-of-director-level reporting to the commission on safety issues, a compensation structure for new or amended contracts for executive officers, and implementation of its approved wildfire mitigation plan.

PRC Section 4293. PRC Section 4293 states that any person that owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or in forest-covered land, or grass-covered land that has primary responsibility for the fire protection of such area, shall maintain the following minimum clearances:

- A minimum radial clearance of 4 feet shall be established for any conductor of a line operating at 2,400 or more volts but less than 72,000 volts.
- A minimum radial clearance of 6 feet shall be established for any conductor of a line operating at 72,000 or more volts but less than 110,000 volts.
- A minimum radial clearance of 10 feet shall be established for any conductor of a line operating at 110,000 or more volts but less than 300,000 volts.
- A minimum radial clearance of 15 feet shall be established for any conductor of a line operating at 300,000 or more volts.

PRC, Division 4, Chapter 6.

- Section 4427—Operation of fire-causing equipment
- Section 4428—Use of hydrocarbon-powered engines near forest, brush, or grass-covered lands without maintaining firefighting tools
- Section 4431—Gasoline-powered saws and firefighting tools
- Section 4442—Measures, requirements, and exemptions for spark arresters

California Government Code. California Government Code Sections 51175 through 51189 provide guidance for classifying lands in California as fire hazard areas and requirements for management of property within those lands. CAL FIRE is responsible for classifying Fire Hazard Severity Zones (FHSZs) based on statewide criteria and makes the information available for public review. Furthermore, local agencies must designate, by ordinance, Very High FHSZs within their jurisdiction based on the recommendations of CAL FIRE.

CPUC GOs 128 and 165. GO 128 establishes rules governing the construction of underground electric and communication lines to promote and safeguard public health and safety. GO 165 establishes requirements for inspections of electric distribution and transmission facilities (excluding those facilities contained in a substation) in rural, high fire-threat areas to ensure safe and high-quality electrical service.

CPUC GO 95: Rules for Overhead Transmission Line Construction. CPUC GO 95 governs the design, construction, and maintenance of overhead electrical lines. Rule 31.1 generally states that this should be done in accordance with accepted good practices for the given location conditions known at the time by the persons responsible for the design, construction, and maintenance of the overhead electrical lines

and equipment. Rule 35 of GO 95 requires the following clearances between bare-line conductors and vegetation in high fire-threat areas:

- 4-foot radial clearances for any conductor of a line operating at 2,400 volts or more, but less than 72,000 volts
- 6-foot radial clearances for any conductor of a line operating at 72,000 volts or more, but less than 110,000 volts
- 10-foot radial clearances for any conductor of a line operating at 110,000 volts or more, but less than 300,000 volts
- 15-foot radial clearances for any conductor of a line operating at 300,000 volts or more

CPUC Fire Threat Zones. In 2018, CPUC approved a statewide Fire-Threat Map (CPUC 2023), which delineates a High Fire-Threat District and is intended to assist with implementation of new fire prevention rules. The map delineates areas in the state where there is an elevated risk and an extreme risk (including likelihood and potential impacts on people and property) from utility-associated wildfires. The Fire-Threat Map helps prioritize fire hazard areas to allow for implementation of new fire-safety regulations adopted by CPUC in December 2017. Electric investor-owned utilities must file an annual report that contains a fire-prevention plan containing specified information for its overhead electric facilities in the High Fire-Threat District. Increased vegetation management and new fire regulations also apply to the High Fire-Threat District. The Project site is not located in an area designated as having elevated or extreme fire threat (CPUC 2023).

Power Line Fire Prevention Field Guide 2021 Edition. The Power Line Fire Prevention Field Guide outlines procedures to minimize the risk of wildfire caused by electrical power lines and equipment. CAL FIRE, the state's three investor-owned utilities (Pacific Gas and Electric Company, Southern California Edison, and San Diego Gas and Electric), and other California electric utilities have mutually developed the comprehensive field guide for their personnel. The guide details fire hazard reduction maintenance procedures for the safety of conductors and certain hardware.

Local Laws, Regulations, and Policies

Riverside County General Plan. The intent of the Safety Element of the Riverside County (County) General Plan is to reduce death, injuries, property damage, and economic and social impact from hazards. The Safety Element addresses the fire-related hazards present within the County, aiming to mitigate wildfire hazards, eliminate earthquake-induced fire hazards, and reduce long-term safety hazards related to wildfire effects, including erosion and debris flow. The County has prepared graphics that identify fire-related hazards; the Project site and generation tie (gen-tie) line alternatives do not intersect any high-risk hazards (County of Riverside 2021a). The section includes policies to support the effort, such as preventive measures, development guidelines, and response time expectations.

The following policies included in the Safety Element generally relate to the Project with respect to fire materials (County of Riverside 2021a):

- **Policy S 4.1.** All development and construction within Fire Hazard Severity Zones shall be reviewed by the Riverside County Fire Department and Building and Safety Department for consistency with the following requirements before the issuance of any building permits: (AI 25, 81.1, 81.2, 104.1)
    a) All proposed development and construction shall meet minimum state, county, and local standards and other legal requirements for fire safety, as defined in the Riverside County Building

or 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.

b) In addition to the standards and guidelines of the California Building Code, California Fire Code, the Riverside County Code of Ordinances, Title 14 of the California Code of Regulations, and other appropriate fire safety provisions, developments shall incorporate additional standards for high-risk, high-occupancy, and dependent facilities where appropriate under the Riverside County Fire Code (Ordinance No. 787) 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.

c) Proposed development and construction in Fire Hazard Severity Zones shall provide secondary public access, in accordance with Riverside County ordinances, where required. There shall be multiple points of ingress and egress that allow for emergency response vehicle access. Points of access shall also include visible street addresses and signs and sufficient water supplies, infrastructure for structural fire suppression, and other applicable local and state requirements. Proposed development and construction in Fire Hazard Severity Zones shall use single loaded roads to enhance fuel modification areas, unless otherwise determined by the Riverside County Fire Chief.

d) Proposed development and construction in Fire Hazard Severity Zones shall provide defensible space or fuel modification zones to be located, designed, constructed, and maintained to provide adequate defensibility from wildfires.

e) Prior to the approval of all parcel maps and tentative maps, the County shall require, as a condition of approval and as feasible and appropriate, the developer meet or exceed the State Responsibility Area Fire Safe Regulations and the Fire Hazard Reduction Around Buildings and Structures Regulations, particularly those regarding road standards for ingress, egress, and fire equipment access (see Gov. Code, Section 66474.02.)

f) Proposed development and construction of more than four residential units or more than 10,000 square feet of nonresidential space located in Very High Fire Hazard Severity Zones, or other appropriate zones as determined by the Riverside County Fire Department, shall submit and implement a fire protection plan as feasible and appropriate. This plan shall include provisions for roadways and access, firefighting infrastructure, signage, vegetation management, construction materials, and evacuations.

- **Policy S 4.4.** Discourage development and activities in areas with limited water and access roads, unless adequate measures are implemented. (AI 60)
- **Policy S 4.4.** Require proposed development in High or Very High Fire Hazard Severity Zones be located where fire and emergency services are available or will be constructed as part of the proposed development activities, to the extent such locations are available. These services should meet the minimum response times as established by the Riverside County Fire Department. (AI 60, 61)
- **Policy S 4.6.** Request that conceptual landscaping plans for development in Fire Hazard Severity Zones be reviewed by TLMA [Transportation and Land Management Agency] and Fire Department prior to the issuance of development permits. The conceptual landscaping plan of the proposed development should, at a minimum, include: (AI 25)

  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 on-site combustible plants.

- **Policy S 4.7.** Site design for development in Fire Hazard Severity Zones should be required to account for topographical conditions and reduce the increased risk for sites located near ridgelines, plateau escarpments, saddles, hillsides, peaks, or other areas where the terrain or topography affect its susceptibility to wildfires by: (AI 60, 81.2, 91)

  a) Providing fuel modification zones with removal of combustible vegetation while 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 setback from the edge of the fuel modification zones as deemed appropriate by the Fire Department.

  f) Minimizing disturbance of 25 percent or greater natural slopes.

  g) Or enacting other efforts as appropriate to provide comparable protection.

- **Policy S 6.12.** The County shall regularly update all appropriate planning documents, including the Safety Element, the Multi-Jurisdictional Local Hazard Mitigation Plan, emergency operations plans, and other public safety plans, and ensure these updates integrate climate change adaptation considerations.

- **Policy S 6.13.** Develop a blueprint for managing evacuation plans, including allocation of buses, designation and protection of disaster routes to maximize capacity and redundancy, and creation of traffic-control contingencies. Ensure that evacuation transportation services are available for those with limited mobility or lacking access to a personal vehicle. (AI 84, 88)

Furthermore, Policy C 3.24 of the County's General Plan Circulation Element requires the provision of safe and efficient routes for emergency vehicles (County of Riverside 2020a). In the event of an emergency requiring evacuation and emergency vehicle access, the Riverside County Sheriff's Department, in collaboration with the Transportation and Land Management Agency, city law enforcement, California Department of Transportation, and California Highway Patrol, would establish evacuation routes.

Riverside County Fire Department (RCFD) Technical Policy TP 15-002. RCFD TP 15-002, titled Solar Energy Generating System Fire Apparatus Access Roads, is a standard that was developed to assist with the design of fire apparatus access roads from public roadways to a Solar Energy Generating System (i.e., solar facility). It addresses secondary access road requirements, which shall be determined by the County Fire Marshal given the specific conditions of a solar project. Each Solar Energy Generating System project will be reviewed on a case-by-case basis to determine secondary fire apparatus access requirements to facilitate emergency operations and to minimize the possibility of an access point being subject to congestion or obstruction during an emergency incident. This standard states that the secondary access road shall not be less than 20 feet in width and shall have an unobstructed vertical clearance of no less than 13.5 feet. The grade of the access road shall not exceed 15%. The access road shall be designed, constructed, and maintained to support the imposed load of fire apparatus weighing at least 75,000 pounds and constructed to Riverside County Transportation Standards. A registered engineer shall certify the design and construction of the access road based on the fire apparatus-imposed load of 75,000 pounds (RCFD 2020).

Desert Center Area Plan. The Wildland Fire section of the Hazards section of the Desert Center Area Plan addresses wildland fire susceptibility for improved public safety in the Desert Center area. The following policy included in the Desert Center Area Plan generally relates to the Project with respect to fire hazards (County of Riverside 2021b).

- **Policy DCAP 10.1**. All proposed development located within High or Very High Fire Hazard Severity Zones shall protect life and property from wildfire hazards through adherence to policies identified in the Fire Hazards (Building Code and Performance Standards), Wind-Related Hazards and General and Long-Range Fire Safety Planning sections of the General Plan Safety Element.

3.22.2 Environmental Setting

The Project site is in Riverside County, California, approximately 3 miles north of Desert Center, approximately 40 miles west of the City of Blythe, and 3.5 miles north of Interstate (I) 10. The Project would also include two Linear Facility Routes (LFRs), which would include one 230-kilovolt (kV) gen-tie line, two access roads (two would be constructed—one for primary access and one for County-required secondary access for emergency services), and one collector line route, all of which are located on lands administered by the BLM. The Project is bounded on the north, east, and south sides by BLM lands and to the south by Belsby Avenue. Melon Street runs along the west side of the Project boundary and Jojoba Street is on the east.

Two County roads, Investor Avenue and Osborne Avenue, intersect the interior of the Project site from east to west. The portion of Osborne Avenue that intersects the Project site is approximately 0.6 miles long. The portion of Investor Avenue that intersects the Project site is approximately 1 mile long. Both Osborne Avenue and Investor Avenue are identified by the County as roads "accepted for public use."

The east side of the Project site is adjacent to BLM lands and California State Route (SR) 177/Rice Road. Primary construction access would be from the main access road via Kaiser Road. For LFR A, access to the new BLM right-of-way would be provided via Kaiser Road, an existing County-maintained paved road. The access road within LFR B would serve as a secondary access road for emergency services, and is disturbed with existing road cuts and buried collection lines. While the LFRs are within the land use jurisdiction of the BLM Palm Springs South Coast Field Office, the Project is within the land use jurisdiction of the County. The 41-acre area associated with the two LFRs on BLM-administered lands is located within a Development Focus Area for solar, wind, and geothermal projects as designated by the Desert Renewable Energy Conservation Plan with a small portion (approximately 2.5 acres) being within the Desert Harvest existing right-of-way. While there are no major urbanized areas located within 30 miles of this area, the community of Desert Center is approximately 3 miles south of the Project site, while the Lake Tamarisk Resort at its closest point is 1.28 miles southwest of the Project site.

The presence of dense, dry fuels and a warm, arid climate characterizes Southern California as having one of the most fire-prone landscapes in the world. Factors influencing wildfire behavior and magnitude include (but are not limited to) forest structure, fuel conditions, terrain, climate, weather, and ignition sources. Weather is one of the most significant biophysical factors of wildfire behavior. Wet winters and dry summers with mild seasonal changes characterize the Southern California climate. The summer months of Southern California are arid and warm, with very little precipitation. This climate pattern is occasionally interrupted by extreme periods of hot weather, drought, winter storms, or dry, easterly Santa Ana winds. Drought and Santa Ana winds are unique weather conditions that occur in Southern California that drive catastrophic wildfires. Santa Ana winds bring hot, dry desert air from the east into the region during late summer and fall, which increases wildland fire hazards during these seasons. Dry vegetation, low humidity, and high air temperature can combine to produce large-scale fire events. As Santa Ana

winds blow westward toward denser development, fires driven by these winds have the potential to result in a greater risk of property damage. Much of the County is considered to be at risk from wildfires (County of Riverside 2021a).

Fire Hazard Mapping and Fire History

CAL FIRE is responsible for mapping fire hazard areas throughout the state and provides these maps through the Fire and Resource Assessment Program (FRAP) database. The FRAP database includes data that identify areas of significant fire hazards throughout the state pursuant to PRC Sections 4201–4204. Geographic areas of the state are designated as either Very High, High, or Moderate Fire Hazard Severity Zones (FHSZs), which are determined by a region's land cover, vegetation, terrain, climate, fire history, and several other factors that contribute to the fire environment. These areas are also classified as Local Responsibility Areas (LRAs), State Responsibility Areas (SRAs), and Federal Responsibility Areas (FRAs), which indicate areas where the local, state, or federal government assume financial responsibility for fire prevention and protection. This information is provided to the public and local agencies to incorporate the fire hazard mapping into local planning efforts. The County has adopted a fire hazard map in the General Plan Safety Element (County of Riverside 2021a, Figure S11). The General Plan Safety Element identifies areas with rugged topography and flammable vegetation as being susceptible to fire hazards (County of Riverside 2021a). According to the Wildfire Susceptibility Map in the General Plan Safety Element, Very High FHSZs in LRAs, SRAs, and FRAs are concentrated in the western portions of the County (County of Riverside 2021a). The Project site lacks dense flammable vegetation and steep slopes. According to CAL FIRE's fire hazard maps, and as illustrated in Figure 3.22-1, Fire Hazard Severity Zones, the majority of the Project site is classified as LRA Unzoned and the remainder of the Project site is classified as Moderate FHSZ in an LRA (CAL FIRE 2007).

Fire history data provide valuable information regarding fire spread, fire frequency, ignition sources, and vegetation/fuel mosaics across a given landscape. The FRAP database[1] summarizes fire perimeter data dating to the late 1800s, but it is incomplete because it does not include all fires under 10 acres in size and has incomplete perimeter data, especially for the first half of the twentieth century (Syphard and Keeley 2016). However, the data do provide a summary of recorded fires and can be used to show whether large fires have occurred in the Project site, which is one of the indicators as to whether they may be possible in the future. According to available data from the CAL FIRE FRAP database, zero fires have burned within a 5-mile vicinity of the Project site since the beginning of the historical fire data record (CAL FIRE 2021). As depicted in Figure 3.22-2, Closest Fire to Project Site, the closest fire that has burned was approximately 12.34 miles to the west of the Project site. Other, smaller fires that either exhausted all available fuels or were quickly extinguished before reaching the FRAP database threshold of 10 acres may have occurred near the Project site, but were not included in the dataset.

Slope/Terrain

The topography of the Project site generally slopes downward toward the northeast at a gradient of less than 1%. Ground surface elevations at the Project site range from approximately 550 feet above mean sea level (amsl) in the eastern solar parcel to 660 feet amsl near the western end of the parcel.

[1] Based on polygon geographic information system data from CAL FIRE's FRAP, which includes data from CAL FIRE, the U.S. Department of Agriculture's Forest Service Region 5, BLM, the National Park Service, contract counties and other agencies. The dataset is a comprehensive fire perimeter geographic information system layer for public and private lands throughout the state and covers fires 10 acres and greater between 1878 and 2018.

Vegetation/Land Cover and Surrounding Land Uses

Vegetation communities at the Project site are detailed in Section 3.5, Biological Resources, and generally consist of fallow agriculture and semi-developed/aquaculture within the solar site area and Sonoran creosote bush scrub, with patches of desert dry wash woodland within the LFRs.

Land uses in the vicinity of the Project site include aquaculture, transportation (Kaiser Road, Rice Road/SR-177), agricultural, renewable energy (both existing and proposed), energy transmission, historical military operations, and recreational development.

The proposed Easley Renewable Energy Project would surround the Project on three sides, as illustrated in Figure 2-3, Project and Other Solar Projects. The existing Desert Sunlight and Desert Harvest solar projects are located north of the Project site, the Athos Solar Project is located south of the Project site, and the recently approved Oberon Solar Project is located to the south of the Project site and Lake Tamarisk.

Climate/Weather

The Project site is approximately 3 miles north of Desert Center, which experiences an average annual high temperature of above 84°F and an average annual low temperature of 63°F (U.S. Climate Data 2023). Wind speeds average approximately 7.4 miles per hour (Weather Atlas 2023). Climate change would result in a small but general increase in temperature and droughts, which are likely to increase the severity, frequency, and extent of wildfires due to an increase of available dry, easily ignitable vegetation (EPA 2016). Therefore, an increase in wildfire activity is possible during operations and future decommissioning of the Project.

Emergency Response

Fire protection services in the County are provided by a combination of federal (U.S. Forest Service, BLM Fire), state (CAL FIRE), and local agencies (RCFD). There are 101 fire stations located throughout the County that serve unincorporated communities, partner cities, and the State of California under the California Master Mutual Aid Agreement (County of Riverside 2020b). Because the Project is not located in an SRA, CAL FIRE would not be responsible for fire management or suppression activities in the Project site unless the area's responsible entity has been depleted (e.g., during a widespread natural disaster or State of Emergency) (Cal OES 2010). Emergency fire response to the Project site would be expected to come from RCFD. As described in Section 3.17, Public Services, the nearest RCFD/CAL FIRE station to the Project is Station 49 – Lake Tamarisk Station, located at 43880 Lake Tamarisk, Desert Center, about 1.28 miles southwest of the Project site.

The RCFD Protection and Emergency Medical Services Strategic Master Plan discusses topics including, but not limited to, descriptions of emergency services including available equipment, personnel, appropriate facilities, and capacity to assist and support wildfire suppression emergency service needs. The Riverside County Emergency Operations Plan outlines the functions, responsibilities, and regional risk assessments of the County for emergencies such as wildfire events and determines the planned response for managing these incidents. The plan addresses initial and extended emergency response and recovery processes (County of Riverside 2021a).

The BLM Fire Program is responsible for fire and fuels management and protection of federal lands identified as FRAs within the United States. The BLM Fire Program includes fire suppression, preparedness, predictive services, fuels management, fire planning, community assistance and protection, prevention and education, and public safety (BLM 2023). BLM establishes fire prevention orders and restrictions to assist with wildland fire prevention efforts throughout the public lands within

the California Desert District, which consists of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties.

Environmental Effects of Wildfires

Wildfire risk can be detrimental to people and structures indirectly through the exposure of pollutant concentrations, as discussed further below.

Air Quality

Carbon dioxide, water vapor, carbon monoxide, particulate matter, hydrocarbons, and other constituent materials are all present in wildfire smoke. The specific composition of smoke depends largely on the fuel type (vegetation types contain different amounts of cellulose, oils, waxes, and starches, which when ignited produce different compounds). In addition, hazardous air pollutants and toxic air contaminants, such as benzene and formaldehyde, are also present in smoke. However, the principal pollutant of concern from wildfire smoke is particulate matter. In general, particulate matter from smoke is very small in size and can be inhaled into the deepest recesses of the lungs, presenting a serious health concern (CARB et al. 2021).

Factors including weather, stage of fire, and terrain can all dictate fire behavior and the impact of smoke on the ground. Wind, for instance, generally results in lower smoke concentrations because wind causes smoke to mix with a larger volume of air. Regional weather systems, such as the Santa Ana winds of Southern California, on the other hand, can spread fire quickly and result in numerous devastating impacts. The Santa Ana winds effectively work to reverse the typical onshore flow patterns and blow winds from dry, desert Great Basin areas westward toward the coast. As a result, coastal communities can be impacted by fires originating in inland areas (CARB et al. 2021).

Large quantities of pollutants can be released by wildland fires over a relatively short period of time. Air quality during large fires can become severely hazardous and can remain impaired for several days after the fire is ignited.

Water Quality

Fire can impact water quality by increasing potential for erosion and sedimentation in areas where vegetation has been burned by fire, resulting in increased water temperature through removal or drastic modification of shade-providing trees and vegetation. Water chemistry can also be altered through the introduction of pollutants and chemical constituents. Aquatic environments may also be impacted through the introduction of fire-retardant chemicals used during firefighting activities.

3.22.3 Impact Analysis

Methodology

Wildfire hazards associated with the Project are evaluated based on landscape characteristics and the Project's ability to ignite or exacerbate wildfire risk. Potential existing hazards are based on review of the Project location on CAL FIRE maps to determine its location within FHSZs. As illustrated in Figure 3.22-1, a majority of the Project site is designated as LRA Unzoned and the remainder of the Project site is designated as Moderate FHSZ. The entire Project site is classified as a LRA (CAL FIRE 2007). Additionally, given the electrical components of the Project and the arid climate, the potential for wildfire is present. Therefore, this analysis identifies design features and compliance with existing safety procedures, standards, and regulations that would be part of the Project.

Criteria for Determining Significance

Section XX of Appendix G to the State CEQA Guidelines addresses typical adverse effects due to wildfire hazards and includes the following threshold questions to evaluate a project's impacts resulting from wildlife hazards. Would the project, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

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

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

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

Significance thresholds, set forth in the County's Environmental Assessment Checklist, are derived from Section XX of Appendix G to the State CEQA Guidelines (listed above), and state that the Project would have a significant impact due to wildfires if the Project or any Project-related component would:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan.

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

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

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

e) Expose people or structures either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

Environmental Impacts

This section includes an examination of the Project's impacts due to wildfires per the County's Environmental Assessment Checklist and Appendix G to the State CEQA Guidelines identified above.

If located in or near SRAs or lands classified as Very High FHSZs:

Threshold a: Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The Project would be located in a remote area of the County with existing, approved, and proposed solar projects in the vicinity (Figure 2-3). As the County's General Plan Safety Element states, the backbone of the County's evacuation routes are the County's Circulation Plan routes (County of Riverside 2021a). According to the County's Circulation Plan, the nearest freeway is I-10 (approximately 3.5 miles south of the Project site), and the nearest major highways are Kaiser Road to the west, approximately 1.17 miles from the Project site, and Rice Road (SR-177 S) to the south and east, approximately 0.32 miles from the Project site. These two roads are considered the

nearest routes for evacuation purposes (County of Riverside 2021a). The Riverside County Emergency Operations Plan addresses wildfire as one of the most common hazard incidents faced by the County. In the event of a wildfire emergency requiring evacuation and emergency vehicle access, the Riverside County Sheriff's Department would establish evacuation routes and Project occupants would comply with all evacuation orders (County of Riverside 2020a).

Primary access to the Project would be via one of two LFRs: one from Kaiser Road approximately 1.17 miles west of the access gate and one from California SR-177/Rice Road approximately 0.32 miles from the eastern access gate (see Figure 3.22-1). During construction, O&M, and future decommissioning, traffic would exit I-10 at SR-177, take SR-177 to Kaiser Road, then take LFR A, which would then reach the boundary of the Project site. Construction of the Project would require the construction of access roads (LFRs A and B); however, it is not anticipated to require any temporary lane closures or obstructions that could restrict the movements of emergency vehicles. Refer to Section 3.19, Transportation, for an analysis of traffic-related impacts during the Project's construction.

During O&M of the Project, primary access to the Project site would be provided from Kaiser Road and emergency access would be provided via SR-177. No permanent or temporary road closures that could restrict emergency vehicle movements are anticipated during O&M of the solar facility. The solar facility would be monitored by on-site staff and/or from off site, and the Project site would be equipped with a Knox-Box to allow emergency personnel to access the site in the event of an emergency. The Project would also install a security fence that would be approximately 8 feet high and have an overall height of no more than 12 feet from the bottom of the fabric to the top barbed wire to prevent vandalism, damage, or theft of Project components, and a locked gate at each ingress/egress. As such, access on Kaiser Road, SR-177/Rice Road, I-10, other public roads, and to the Project site would be unobstructed, and construction and operation of the solar facility would not impair any emergency access routes.

Construction of the gen-tie line structures would cause a temporary disturbance within the construction corridor, a right-of-way width of 150 feet has been applied for with the BLM; however, this disturbance would not obstruct any public rights-of-way. Existing paved and unpaved roads would be used to the extent practical. The access road within the LFR A that would contain the gen-tie line is proposed to be an up-to-24-foot-wide compacted soil road with 5-foot shoulders on either side that would function with dual purpose as the maintenance road for the gen-tie and as the main site access road. The construction of the gen-tie line is not expected to cause any lane closures that would impair movement on public roadways. LFR B would contain an access road for emergency and underground collection lines.

In accordance with MM TRAF-1, a Construction Traffic Management Plan would be prepared to reduce potential impacts to traffic. The construction traffic management plan would include management measures, such as informing emergency service providers of the construction traffic schedule, which would help to ensure that emergency access routes would not be impeded. Further, circulation and access to the Project site would be provided in accordance with MM FIRE-1, County Fire Department Technical Policy (TP) 15-002 Compliance, and would be reviewed and approved by RCFD prior to Project implementation. Therefore, construction, O&M, and future decommissioning of the Project would not restrict the movement of emergency vehicles and would not impair any adopted emergency response plan or emergency evacuation plan. Therefore, with incorporation of MM TRAF-1 and MM FIRE-1, the Project would not substantially impair an adopted emergency response plan or emergency evacuation plan, and the Project's impacts would be less than significant.

Threshold b: Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. According to CAL FIRE's FHSZ mapping and the County's General Plan Safety Element, the majority of the Project is designated as LRA Unzoned and the remainder of the Project site is designated as Moderate FHSZ. The entire Project site is classified as a LRA (CAL FIRE 2007). The surrounding area includes aquaculture, agricultural, renewable energy (both existing and proposed), energy transmission, historical military operations, and recreational development. Project occupants during construction and decommissioning would be limited to the temporary presence of workers, and during operation up to eight full-time or part-time O&M staff would be present to perform daily visual inspections, minor repairs, and annual panel cleaning. The Project would not significantly alter slopes or create wind patterns that would facilitate wildfire spread. Due to the presence of scarce vegetation and relatively flat terrain, the potential for the Project to exacerbate wildfire risks and expose Project occupants to the hazards of a wildfire is considered low.

Fire environments are dynamic systems and include many types of environmental factors and site characteristics. Fires can occur in any environment where conditions are conducive to ignition and fire movement. Areas of naturally vegetated open space are typically composed of conditions that may be favorable to wildfire spread. The three major components of the fire environment are topography, vegetation (fuels), and climate. The state of each of these components and their interactions with each other determines the potential characteristics and behavior of a fire at any given moment. For example, fire will spread more quickly in areas with steep slopes and dense vegetation, and weather (e.g., high winds or temperatures) can accelerate the spread of wildfire.

The Project is located within Southern California where Santa Ana winds are prevalent; however, the Project site is relatively flat with an elevation that ranges from 550 amsl in the eastern solar parcel to 660 feet amsl near the western end of the parcel, with slopes downward toward the northeast at a gradient of less than 1%. Given the Project construction would not involve altering any slopes or creating any new wind patterns, the Project would not exacerbate wildfire spread.

Vegetation clearance would commence prior to the onset of Project construction activities, and when practical, vegetation removal for the Project will be minimized. The vegetation alliances present within the solar site area include fallow agriculture and semi-developed/aquaculture. The LFRs are composed primarily of Sonoran creosote bush scrub, with patches of desert dry wash woodland. The Project would include the addition of utilities to support the Project. Electrical utilities, particularly during extreme weather events, are known to have been ignition sources of historically large fires in California. However, with the implementation of MM FIRE-1 through MM FIRE-5, in addition to the proposed handling of existing vegetation explained below, the Project would not exacerbate wildfire risk.

Prior to construction, vegetation would be disced under, mulched or composted, and or removed on site within the solar fields, roadways, and areas around the O&M building. Vegetation would be cleared for construction of the drainage controls, if needed. This reduction of vegetation would further reduce the availability of flammable fuels around the Project site. Construction of the Project would involve preparation, installation, and testing of electrical components such as cables, inverters, wiring, modules, and a transformer. Wires would be buried at a minimum of 18 inches below grade, minimizing the potential for faulty wiring to ignite a fire. All electric inverters and the transformer would be constructed on concrete foundation structures or steel skids and tested prior to use to ensure safe operations and avoid fire risks. Prior to wire setup, work areas would be cleared of vegetation to reduce the risk of ignition from any vehicles or equipment. Small quantities of hazardous chemicals such as fuels and greases would

be stored at the site during construction. They would be stored in appropriate containers in an enclosed and secured location with secondary containment to prevent leakages and accidental fires. In accordance with MM FIRE-2, Water Tank Installation—Riverside County Fire Department Compliance, water tanks would be installed on site as required by RCFD, and MM FIRE-3, Maintenance Truck Equipment, would ensure that all construction and maintenance trucks are equipped with firefighting equipment. Additionally, MM FIRE-4, Occupational Safety and Health Administration and California Code of Regulations Compliance, would ensure that all welding and hot work is conducted in accordance with fire safety best practices.

The Project may include operation of an up to 117-megawatt energy storage system that would consist of batteries housed in storage containers. The storage system would be installed following all applicable design, safety, and fire standards for the installation of energy storage systems, including, but not limited to, NFPA Standard 855 (Standard for the Installation of Stationary Energy Storage Systems) and Section 1206 of the California Fire Code. NFPA Standard 855 includes criteria for fire prevention and suppression associated with ESS installations, such as setbacks and proper design of sprinkler systems. It considers ventilation, detection, signage, listings, and emergency operations responding to ESS emergencies (NFPA 2023). Implementation and compliance with these design and safety regulations would ensure wildfire risk associated with the Project is reduced.

Furthermore, as described in Chapter 2, Description of the Project, Section 2.5.7, Fire Safety, fire safety measures would be implemented as part of the Project. Section 2.5.7 notes that a Fire Prevention and Safety Plan is being created for the Project and includes standards for construction and operation. The Fire Prevention and Safety Plan complies with applicable BLM and County regulations and is being developed in coordination with RCFD. Of concern are fire-safe construction, reduction of ignition sources, control of fuel sources, availability of water, and proper maintenance of firefighting systems. The Applicant has incorporated MM FIRE-5, Fire Prevention and Safety Plan, into the Project to specify what elements are to be included in the Fire Prevention and Safety Plan to ensure the impact is less than significant.

The Fire Prevention and Safety Plan includes the following steps to identify and control fires and similar emergencies:

- Electrical equipment that is part of the Project would be energized only after the necessary inspection and approval, so there is minimal risk of any electrical fire during construction.
- Project staff would monitor fire risks during construction and operation to ensure that prompt measures are taken to mitigate identified risks.
- Transformers located on site would be equipped with coolant that is biodegradable and contains no polychlorinated biphenyls or other toxic compounds.

The Project's location, components, and safety measures would ensure the safe construction, operations, and future decommissioning of the solar facility. Future decommissioning activities are anticipated to be similar to construction, but less intense. Once operational, up to eight workers are anticipated to perform daily visual inspections and minor repairs to ensure all components of the Project are in proper condition. Other O&M activities would be limited to inspections, repairs, and annual panel washing, which would require on-site water use, and would not involve the handling, usage, or production of flammable materials. Fire risk during construction, operation, and decommissioning of the solar facility would be minimal and further reduced with MM FIRE-1 through MM FIRE-5. The Project facility would be monitored by on-site O&M personnel and/or remotely. Security at the solar facility would be provided by an 8-foot-high chain-link fence and would have top rail, bottom tension wire, and three strands of barbed wire mounted on 45-degree extension arms to prevent vandalism, damage, or theft of Project components.

Including the strands of barbed wire, it would have an overall height of no more than 12 feet from the bottom of the fabric to the top barbed wire. The posts would be set in concrete. A Knox-Box would be installed at all access gates for the Project to allow emergency personnel to access the Project site in the event of an emergency.

The gen-tie transmission structures would be constructed to have tubular steel monopoles and would not exacerbate fire risks due to the nonflammable nature of their foundations. Because the gen-tie line would be strung on poles up to 160 feet above ground, the transmission lines would not contact any low-growing desert vegetation and would not exacerbate fire risk during hazardous weather conditions. Construction of the gen-tie transmission line and structures would use existing access roads where feasible. New temporary and/or permanent access roads may be constructed if needed. The lack of substantial vegetation within the gen-tie corridor would pose a minimal wildfire risk during construction and operation of the gen-tie line. As described previously, fire safety measures would be implemented to ensure that construction and operation of the Project components, including the gen-tie line, are implemented in accordance with applicable fire protection and environmental, health, and safety requirements.

As such, with incorporation of MM FIRE-1 through MM FIRE-5 into the Project, construction, operations, and future decommissioning of the solar facility, gen-tie transmission line, and access roads would not exacerbate wildfire risks or expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire. Additionally, MM BIO-5 requires the preparation of an Integrated Weed Management Plan and MM BIO-6 requires preparation of a Vegetation Resources Management Plan, which would reduce the likelihood for highly flammable invasive plants and guide management of native vegetation near Project facilities to prevent overgrowth and reduce fire risk. Therefore, with implementation of MM FIRE-1 through MM FIRE-5, MM BIO-5, and MM BIO-6 the Project would result in less-than-significant impacts with mitigation.

Threshold c: Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The Project would construct a utility-scale solar photovoltaic (PV) electrical generating and storage facility that would deliver electricity to the statewide transmission grid. The Project site is in a remote desert setting away from densely populated areas[2]; and is not within a High or Very High FHSZ; however, the electrical components still pose a risk of fire if they are tampered with or become damaged. Electrical components that may pose a risk of fire include high voltage transformers, inverters, batteries, backup generators, and the substation. Although the Project's fire risk is considered low, the potential to exacerbate fire risk could occur during construction, operations, and/or decommissioning.

Construction of the solar facility would require the installation of infrastructure to support the generation, delivery, and storage of electricity. Construction of the Project would introduce potential ignition sources to the Project site, including the use of heavy machinery and the potential for sparks during welding activities or other hot work. Prior to construction, vegetation would be disced, mulched or composted, and removed as needed. The reduced amount of already sparse vegetation would further minimize the potential for ignition. Additionally, assembly and installation of the electrical equipment would meet existing electrical and safety standards. Certified electricians and utility "journeymen" would be part of

[2] The community of Desert Center, with a population of approximately 300, is located 3 miles south of the Project site. The Lake Tamarisk Resort, with a population of approximately 250, at its closest point is 1.28 miles southwest of the Project site.

the construction workforce to ensure that all electrical equipment is assembled properly. The Project's substation would be secured in a barbed wire chain-link fence to comply with electrical codes and would include communication systems to comply with Federal Energy Regulatory Commission and California Independent System Operator/Utility monitoring and control requirements to ensure safe operation. The Project may include the installation of up to 117-megawatt alternating current coupled centralized battery energy storage system (BESS) configuration, which would include batteries housed within containers in a centralized location near the proposed on-site substation. The BESS would likely consist of containers housing batteries connected in strings and mounted on racks. The California Fire Code (2022) details design standards for alternating current-coupled BESS, which include lighting, monitoring equipment, cooling units, active exhaust venting, multiple fire detection units including gas/heat/smoke detectors, and fire suppression systems that adequately address fire risk associated with the unit. Most of the solar facility's equipment would consist of solar PV panels and their mounting systems, which would be assembled from materials that are not combustible or flammable. The fire emergence risk in PV systems is very low (TUV Rheinland Energie und Umwelt GmbH 2018).

Construction of the gen-tie line and structures would occur within a corridor approximately 150 feet wide. Wire setup sites within this corridor would be cleared and graded to ensure enough clearance for large equipment used for the wire stringing operation. Removal of potentially flammable materials and vegetation would occur in work areas, such as wire setup, puller, and tensioner sites and access spur roads within the construction corridor, to reduce the risk of wildfire during construction. The gen-tie transmission lines would be supported by tubular steel monopoles and would not exacerbate fire risks due to the nonflammable nature of their foundations. Construction of the gen-tie transmission line and structures would use existing access roads where feasible. New temporary and/or permanent access roads may be constructed if needed in areas without existing access roads, and construction of all permanent access roads would comply with RCFD specifications. The lack of substantial vegetation within the gen-tie corridor would pose a minimal wildfire risk during construction and operation of the gen-tie line. As described previously, fire safety measures (MM FIRE-1 through MM FIRE-5 and MM BIO-2) as well as MM BIO-5 and MM BIO-6 would be implemented to ensure that construction, operation, and decommissioning of the Project's components, including the gen-tie line, are implemented in accordance with applicable fire protection and environmental, health, and safety requirements. As such, construction, operation, and decommissioning of the Project's gen-tie line would not exacerbate wildfire risks and impacts would be less than significant.

During O&M, the Project would have up to eight employees on site. Regular O&M of the solar facility would involve daily visual inspections and maintenance when needed to address damage or deterioration of equipment. Because O&M activities would ensure that all equipment is in working condition, accidents will be minimized. Fire safety measures will be implemented during operations, which may include installation of one or more aboveground water storage tank(s) adjacent to the O&M facility, sprinkler systems, an FM200 fire suppression system (or equivalent), and portable carbon dioxide fire extinguishers mounted at the power conversion system units. As indicated in MM FIRE-2, additional water storage tanks would be installed if required by RCFD, which would ensure adequate water availability. Furthermore, MM FIRE-1 and MM FIRE-3 through MM FIRE-5 would ensure construction and operation of the Project is implemented with fire safety best practices, including defensible space requirements, proper circulation and fire road widths, and firefighting equipment. These safety measures, along with the incorporation of Project Fire Prevention and Safety Plan (MM FIRE-5), would provide safe operating conditions and fire response protocols to minimize the risk of wildfire. Furthermore, as discussed in response to Threshold "b," additional MMs (MM BIO-2, MM BIO-5, and MM BIO-6) would be implemented, which would further reduce fire risk. Future decommissioning activities, as with construction, would involve the temporary use of heavy construction equipment and vehicles during the removal of the solar facility's components and

would be similar to impacts during construction. As such, impact from the construction, operations, and future decommissioning of the Project would be less than significant as the Project would not install or remove utilities that may exacerbate fire risk.

Construction, operations, or future decommissioning of the Project would not directly or indirectly require new or expanded infrastructure other than that which is planned as part of the Project. As discussed in Section 3.21, Utilities and Service Systems, no new utility connections, water/wastewater facilities, or other service utilities would be required for the Project. Project construction, operations, and decommissioning of the solar and BESS facility, access roads, gen-tie line, and staging areas/laydown areas and vegetation clearance are part of the Project analyzed herein. As such, any potential temporary or ongoing environmental impacts related to these components of the Project have been accounted for and analyzed in this environmental impact report as part of the impact assessment conducted for the entirety of the Project. In addition, the Project would be required to comply with all regulatory requirements, in addition to MMs that are incorporated as part of the Project, specifically those listed in the Section 3.5 Biological Resources, Section 3.10 Hazards and Hazardous Materials, Section 3.11 Hydrology and Water Quality, and Section 3.19 Transportation for the purposes of avoiding or substantially lessening potential impacts associated with trenching, grading, site work, and the use of heavy machinery to the extent feasible. No adverse physical effects beyond those already disclosed and addressed would occur as a result of implementation of the Project or associated infrastructure. Therefore, the construction, operations, and decommissioning of associated infrastructure would not exacerbate wildfire risk or result in impacts to the environment beyond those already disclosed throughout this document, and impacts would be less than significant with mitigation.

Threshold d: Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. A majority of the Project site is designated LRA Unzoned with the remaining portions designated Moderate FHSZ. The Project site is in a remote desert setting. The closest developed communities are Lake Tamarisk and Desert Center; however, there are no major densely populated cities or communities in the vicinity of the Project site. Lake Tamarisk is approximately 1.28 miles southwest of the Project site and Desert Center is located approximately 3 miles south of the Project site. The solar facility would be constructed and operated on a nearly level surface and would require minimal grading prior to installation of the solar PV panels. As discussed in Section 3.8, Geology and Soils, the Project site is within a gentle slope area; geologic hazards associated with slope instability and landslide hazards are considered low. Additionally, the Project site is relatively flat with a slight descending slope to the northeast that ranges from 550 to 660 feet amsl. The County's General Plan maps the Project site as having no potential for seismically induced slope instability and as having slope grades of less than 15% (County of Riverside 2021a).

Slope failures, mudflows, and landslides are common in areas where steep hillsides and embankments are present, and such conditions would be exacerbated in a post-fire environment where vegetative cover has been removed. Vegetation plays a vital role in maintaining existing drainage patterns and the stability of soils. Plant roots stabilize the soil and leaves, and stems and branches intercept and slow water, allowing it to more effectively percolate into the soil. Removal of surface vegetation reduces the ability of the soil surface to absorb rainwater and can allow for increased runoff that may include large amounts of debris and mud flows. If hydrophobic conditions exist after a fire, the rate of surface water runoff is increased since water percolation into the soil is reduced. The potential for surface runoff and debris flows therefore increases significantly for areas recently burned by large wildfires (Moench and Fusaro 2012). A review of historical fire data revealed that no fires have been recorded within 5 miles of the Project site

(CAL FIRE 2021), though smaller fires may have ignited closer to the Project site that were not included in the FRAP database. Additionally, Riverside County Fire Station 49 is located within the Lake Tamarisk Community southwest of the Project site. As such, the solar facility site and gen-tie line are in an area that has a low risk of downslope or downstream flooding, landslides, or post-fire slope instability due to the Project's location on relatively flat terrain and lack of post-fire conditions on site.

Pre-construction activities would include obtaining information on stormwater modeling and grading design to avoid or minimize changes to existing stream channel configurations. Grading may be required for the inverter pads, substation, driveways, and other improvements such as access roads. Because the ground surface at the Project site is nearly flat and nonflammable solar PV panels would be installed on most of the Project's area, it is unlikely that the Project would expose people or structures to downslope or downstream flooding, landslides, post-fire slope instability, or drainage changes. In the event of a wildfire, the Project would also not expose a substantial population of people to risks associated with post-fire slope instability because the Project is generally flat with little to no slope. The small slope that does exist is directed away from existing communities and therefore presents little to no risk of slope instability in the event of a fire. Additionally, MM BIO-3 calls for implementation of erosion and sedimentation best management practices. This Mitigation Measure would ensure that the Project would not expose people or structures to significant risks associated with flooding, landslides, or drainage changes. As such, impacts regarding downslope or downstream flooding or landslides as a result of post-fire slope instability would be less than significant with mitigation incorporated.

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

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. Construction of the Project would introduce potential ignition sources to the Project site, including the use of heavy machinery and the potential for sparks during welding activities or other hot work. However, the Project would be required to comply with state requirements for fire safety practices, to reduce the possibility of fires during construction activities. The Project would comply with California Fire Code Section 3304 for precautions against fire during construction activities. Access for firefighting would be maintained throughout construction per California Fire Code Section 3310.1. Any motorized equipment within the site would comply with fire protection regulations outlined in California Fire Code Section 3316. Further, vegetation where necessary would be removed from the site prior to the start of construction. Adherence to state regulatory standards during Project construction would reduce the risk of wildfire ignition and spread during construction activities. While under construction, the site is required to have no less than one portable extinguisher at each construction trailer and area where combustible materials have accumulated, in every storage or construction shed, and where any additional hazards exist (California Fire Code Section 3315). Fire extinguishers are to be provided throughout the Operations and Management buildings, within 75 feet of each other and where there is high risk for fire ignitions. All pickup trucks on the Project site will be equipped with fire extinguishers. Therefore, short-term construction impacts associated with exposing people or structures to a significant risk of loss, injury, or death involving wildland fires would be less than significant.

During operations, the Project would have up to eight employees on site. Regular O&M of the solar facility would involve daily visual inspections and maintenance when needed to address damage or deterioration of equipment. Because O&M activities would ensure that all equipment is in working condition, accidents will be minimized as will potential fires. Additionally, fire safety measures will be implemented during operations, which may include installation of one or more aboveground water storage tank(s) adjacent to the O&M facility, sprinkler systems, an FM200 fire suppression system (or equivalent), and portable carbon dioxide fire extinguishers mounted at the power conversion system units. As indicated in MM FIRE-2,

additional water storage tanks would be installed if required by RCFD, which would ensure adequate water availability. Furthermore, MM FIRE-1 and MM FIRE-3 through MM FIRE-5 would ensure construction and operation of the Project is implemented with fire safety best practices, including defensible space requirements, proper circulation and fire road widths, and firefighting equipment. These safety measures, along with the incorporation of Project Fire Prevention and Safety Plan (MM FIRE-5), would provide safe operating conditions and fire response protocols to minimize the risk of wildfire. Furthermore, as discussed in response to Threshold "b," additional MMs (MM BIO-2, BIO-5, and MM BIO-6), would be implemented, which would further reduce fire risk. Future decommissioning activities, as with construction, would involve the temporary use of heavy construction equipment and vehicles during the removal of the solar facility's components and would be similar to impacts during construction.

With the incorporation of the above Mitigation Measures, the Project would substantially reduce the potential to facilitate wildfire spread or exacerbate wildfire risk or expose people or structures, indirectly or directly, to significant risk of loss, injury, or death involving wildland fires.

Cumulative Impacts

Geographic Scope. The geographic scope of the cumulative impact analysis is considered to be 2 miles, which is a conservative assumption for ember casting given available fuels, topography, and climate for the area. This geographic scope would include all projects within 2 miles of the Project site, which are included in Tables 3.1-1 and 3.1-2 in Chapter 3, Environmental Analysis, Section 3.1.2, Cumulative Impact Scenario.

Cumulative Impacts. As discussed in Threshold "a" above, the Project is located in a remote area of Riverside County with existing, approved, and proposed solar projects in the vicinity. The County's General Plan Safety Element states that the County's Circulation Plan routes are considered the backbone routes for evacuation purposes (County of Riverside 2021a). For the Project, the evacuation routes include I-10, Kaiser Road, and Rice Road (SR-177 S), and no permanent impacts would occur to these roadways as a result of the Project. During construction and decommissioning of the Project, temporary impacts to roadways could occur; therefore, the Project would incorporate MM TRAF-1, Construction Traffic Management Plan, and MM FIRE-1, RCFD Technical Policy (T) 15-002 Compliance, to reduce impacts to less than significant.

Cumulative projects in the Project's vicinity are other large-scale solar and energy projects, many of which are operational, and permanent or temporary road closures are not anticipated to occur during O&M that could restrict emergency vehicle movements. All cumulative projects would be required to implement a construction traffic management plan to reduce potential impacts to evacuation routes and to comply with all requirements of RCFD, including compliance with all applicable policies. Therefore, the Project's less-than-significant impacts with mitigation incorporated, combined with those of nearby projects would not result in a cumulatively significant impact with respect to substantially impairing an adopted emergency response plan or emergency evacuation plan.

As discussed under Threshold "b," the Project site is designated as LRA Unzoned and the remainder of the Project site is designated as Moderate FHSZ within an LRA. The Project site is within Southern California where Santa Ana winds are prevalent; however, the wildfire risk of the Project site is low as the site is relatively flat and has limited vegetation. Although not in a High or Very High FHSZ, factors that could increase wildfire risk include the electrical components associated with the Project (e.g., cables, inverters, transformer). To reduce potential impacts related to the exposure of occupants to pollutant concentrations from a wildfire, the Project would incorporate MM FIRE-1 through MM FIRE-5, MM BIO-5, and MM BIO-6. With implementation of these measures, the Project would result in less-than-significant impacts with mitigation.

Cumulative projects in the Project's vicinity are other large-scale solar and energy projects, many of which are operational and have a similar environmental setting to the Project (e.g., relatively flat, Santa Anas, sparse vegetation). As discussed above, the overall wildfire risk for the area is relatively low; however, the addition of multiple large-scale utilities does increase wildfire risk and impact could be significant. Similar to the Project, all cumulative projects would be required to comply with all applicable codes for the installation of the electrical components, which will limit the wildfire risk associated with these features. Therefore, the Project's less-than-significant impacts with mitigation incorporated combined with the potential impacts of nearby projects would not result in a cumulatively significant impact with respect to exacerbating impacts related exposing the population to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

As discussed under Threshold "c," the Project would construct utility-scale solar PV electrical generating and storage facility in a remote desert setting, which would deliver electricity to the statewide transmission grid. The Project does not occur within a High or Very High FHSZ, however the electrical components still pose a fire risk. The Project would implement the following MMs to reduce impacts related to the installation or maintenance of infrastructure (e.g., utilities, power lines): MM FIRE-1 through MM FIRE-5, MM BIO-5, and MM BIO-6. With the incorporation of these Mitigation Measures, the Project's impact would be less than significant with mitigation.

The Joshua Tree National Park Proposed expansion and Chuckwalla National Monument are currently under congressional consideration as the Chuckwalla National Monument Establishment and Joshua Tree National Park Expansion Act of 2023. The Joshua Tree National Park Proposed Expansion would expand the existing Joshua Tree National Park to the east in the Eagle Mountain area and consist of approximately 17,000 acres. The Chuckwalla National Monument would be located along Joshua Tree National Park's southern boundary, stretching along I-10 from the edge of the eastern Coachella Valley to the Colorado River, consisting of approximately 700,000 acres. If adopted, the proposed expansion of Joshua Tree National Park and creation of Chuckwalla National Monument would re-designate existing federal lands in the Project vicinity, which would reduce the opportunity for new development in the region that could contribute to cumulative impacts related to wildfire.

Cumulative projects in the Project's vicinity are other large-scale solar and energy projects, many of which are operational and have a similar environmental setting to the Project (e.g., relatively flat, Santa Anas, sparse vegetation). As discussed above, the overall wildfire risk for the area is relatively low; however, the addition of multiple large-scale utilities does increase wildfire risk and impact could be significant. Similar to the Project, all cumulative projects would be required to comply with all applicable codes and regulations related to construction, O&M, and decommissioning, which would reduce fire risk associated with cumulative projects. Therefore, the Project's less-than-significant impacts with mitigation incorporated, combined with the potential impacts of nearby projects would not result in a cumulatively significant impact with respect to impacts related to the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

As discussed under Threshold "d," the Project would be constructed and operated on a nearly level surface and would require minimal grading prior to installation of the solar PV panels. Because the ground surface at the Project site is nearly flat and nonflammable solar PV panels would be installed on most of the Project's area, it is unlikely that the Project would expose people or structures to downslope or downstream flooding, landslides, post-fire slope instability, or drainage changes. In the event of a wildfire, the Project would also not expose a substantial population of people to risks associated with post-fire slope instability because the Project is in a remote area. Additionally, MM BIO-3 calls for implementation

of erosion and sedimentation best management practices, which reduce any potential impacts to less than significant.

Cumulative projects in the Project's vicinity are other large-scale solar and energy projects, many of which are operational and have a similar environmental setting to the Project (e.g., relatively flat, Santa Anas, sparse vegetation). Similar to the Project, all cumulative projects are in a remote area, which would limit the population that could be exposed to risks associated with post-fire slope instability. Therefore, the Project's less-than-significant impacts, which are further reduced with MM BIO-3, combined with the potential impacts of nearby projects would not result in a cumulatively significant impact with respect to exacerbating impacts related exposing the population to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes post-fire slope instability.

As discussed under Threshold "e," the construction of the Project would introduce potential ignition sources to the Project site, including the use of heavy machinery and the potential for sparks during welding activities or other hot work. However, the Project would be required to comply with state requirements for fire safety practices, to reduce the possibility of fires during construction activities. During O&M, the Project would have up to eight employees on site. Regular O&M of the solar facility would involve daily visual inspections and maintenance when needed to address damage or deterioration of equipment. Because O&M activities would ensure that all equipment is in working condition, accidents would be minimized as would potential fires. Additionally, fire safety measures would be implemented during operations, which may include installation of one or more aboveground water storage tank(s) adjacent to the O&M facility, sprinkler systems, an FM200 fire suppression system (or equivalent), and portable carbon dioxide fire extinguishers mounted at the power conversion system units. The Project would incorporate MM FIRE-1 through MM FIRE-5, which would ensure construction and operation of the Project is implemented with fire safety best practices, including defensible space requirements, proper circulation and fire road widths, and firefighting equipment. Additional MMs (MM BIO-2, MM BIO-5, and MM BIO-6) would be implemented that would further reduce fire risk. Future decommissioning activities, as with construction, would involve the temporary use of heavy construction equipment and vehicles during the removal of the solar facility's components and would be similar to impacts during construction. As such, impact from the construction, O&M, and future decommissioning of the Project would be less than significant with mitigation incorporated.

Cumulative projects in the Project's vicinity are other large-scale solar and energy projects, many of which are operational and have a similar environmental setting to the Project (e.g., relatively flat, Santa Anas, sparse vegetation). Similar to the Project, all cumulative projects are in a remote area, which would limit the population that could be exposed to risks associated with wildfire. Therefore, the Project's less-than-significant impacts with mitigation incorporated combined with the potential impacts of nearby projects would not result in a cumulatively significant impact with respect to exposing people or structures either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

3.22.4 Mitigation Measures

The following MMs were developed to substantially lessen impacts to wildfire expected to result from the construction, operation, maintenance, and decommissioning of the Project.

MM FIRE-1 **County Fire Department Technical Policy (TP) 15-002 Compliance**. The Applicant shall ensure that circulation and access for fire protection purposes within the site and at the entrance are provided, with roads not less than 20 feet consistent with County Fire

Department Technical Policy TP 15-002. Compliance with the requirement shall be documented in the construction documents.

MM FIRE-2 **Water Tank Installation—Riverside County Fire Department Compliance**. The Applicant shall install water tanks if required by the Riverside County Fire Department (RCFD). The required volume of water for fire use shall be based on the County Fire Marshall's requirement following review of the Project plans. The RCFD-approved number of water tanks and volume shall be included in the construction documents.

MM FIRE-3 **Maintenance Truck Equipment**. The Applicant shall ensure all maintenance trucks are equipped with a fire extinguisher or other firefighting equipment in accordance with state and federal regulations. Compliance with this measure shall be documented in monitoring logs provided to the California Department of Fish and Wildlife and Bureau of Land Management.

MM FIRE-4 **Occupational Safety and Health Administration and California Code of Regulations Compliance.** The Applicant shall ensure that welding and all construction hot work abides by the appropriate Occupational Safety and Health Administration and California Code of Regulations standards (8 CCR 4846). Compliance with this measure shall be documented in monitoring logs provided to California Department of Fish and Wildlife and Bureau of Land Management.

MM FIRE-5 **Fire Prevention and Safety Plan.** The Applicant shall prepare and implement a Fire Prevention and Safety Plan to ensure the safety of workers and the public during construction, operation and maintenance, and future decommissioning activities for the Project. The owner must provide the Fire Prevention and Safety Plan to the Bureau of Land Management (BLM) for review and approval and to the Riverside County Fire Department (RCFD) for review and comment before construction. The Fire Prevention and Safety Plan shall include, but not be limited to, the following elements:

- Procedures shall be in place for minimizing potential ignition, including, but not limited to, vegetation clearing, parking requirements/restrictions, idling restrictions, smoking restrictions, proper use of gas-powered equipment, and hot work restrictions.
- Work restrictions shall be in place during Red Flag Warnings and High to Extreme Fire Danger days.
- All internal combustion engines used at the Project's site shall be equipped with spark arrestors. Spark arrestors shall be in good working order.
- Light trucks and cars shall be used only on roads where the roadway is cleared of vegetation, have been cut, and initial fencing completed. Mufflers on all cars and light trucks shall be maintained in good working order.
- Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees.
- Equipment parking areas and small stationary engine sites shall be cleared of all flammable materials.
- Smoking shall be prohibited in all vegetated areas and within 50 feet of combustible materials storage and shall be limited to paved areas or areas cleared of all vegetation.

- Each construction site (if construction occurs simultaneously at various locations) shall be equipped with fire extinguishers and firefighting equipment sufficient to extinguish small fires.
- The Applicant shall coordinate with BLM and RCFD to create a training component for emergency first responders to prepare for specialized emergency incidents that may occur at the Project's site.
- All construction workers, plant personnel, and maintenance workers visiting the plant and/or transmission lines to perform maintenance activities shall receive training on fire prevention procedures, the proper use of firefighting equipment, and procedures to be followed in the event of a fire. Training records shall be maintained and be available for review by BLM and RCFD. Fire prevention procedures shall be included in the Project's Worker Environmental Awareness Training (Mitigation Measure BIO-2).
- Vegetation near all solar panel arrays, ancillary equipment, and access roads shall be controlled through periodic cutting and spraying of weeds, in accordance with the Weed Management Plan (Mitigation Measure BIO-5).
- BLM and RCFD shall be consulted during plan preparation and fire safety measures recommended by these agencies included in the plan.
- The plan shall list fire prevention procedures and specific emergency response and evacuation measures that would be required to be followed during emergency situations.
- All on-site employees shall participate in annual fire prevention and response training exercises with BLM and RCFD.
- The plan shall list all applicable wildland fire management plans and policies established by state and local agencies and demonstrate how the Project shall comply with these requirements.
- The Applicant shall designate an emergency services coordinator from among the full-time on-site employees who shall perform routine patrols of the site during the fire season equipped with a portable fire extinguisher and communications equipment. The Applicant shall notify BLM and RCFD of the name and contact information of the current emergency services coordinator in the event of any change.
- Remote monitoring of all major electrical equipment (transformers and inverters) shall screen for unusual operating conditions. Higher than nominal temperatures, for example, can be compared with other operational factors to indicate the potential for overheating, which under certain conditions could precipitate a fire. Units could then be shut down or generation curtailed remotely until corrective actions are taken.
- Fires ignited on site shall be immediately reported to BLM and RCFD.
- The engineering, procurement, and construction contract(s) for the Project shall provide reference to or clearly state the requirements of this measure.

MM BIO-2 **Worker Environmental Awareness Program (WEAP)**. *See full text in Section 3.5, Biological Resources.*

MM BIO-3 **Minimization of Impacts to Native Vegetation**. *See full text in Section 3.5, Biological Resources.*

MM BIO-5 **Integrated Weed Management Plan**. *See full text in Section 3.5, Biological Resources.*

MM BIO-6 **Vegetation Resources Management**. *See full text in Section 3.5, Biological Resources.*

MM TRAF-1 **Construction Traffic Management Plan**. *See full text in Section 3.19, Transportation.*

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Figure 3.22-1 Fire Hazard Severity Zones

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Figure 3.22-2 Closest Fire to Project Site

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4 Alternatives

Section 15126.6(a) of the California Environmental Quality Act (CEQA) Guidelines states that an Environmental Impact Report (EIR) "shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives." An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives governed by the rule of reason that will foster informed decision making and public participation. An EIR is not required to consider alternatives that are infeasible. The CEQA Guidelines state that factors that may be considered when determining the feasibility of alternatives are "site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context) and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent)" (14 CCR 15126.6[f][1]).

Additionally, the No Project Alternative must be analyzed. The EIR must explain the rationale for selecting the alternatives to be discussed (see Section 4.2.1, Alternative 1: No Project Alternative, and Section 4.2.3, Alternative 3: Private Linear Facility Route Alternative), identify those that were not carried forward because they were infeasible, and briefly explain why these were not carried forward. The "environmentally superior" alternative to the project must be identified and discussed (see Section 4.3, Comparison of Alternatives). If the environmentally superior alternative is the No Project Alternative, the EIR must identify an additional environmentally superior choice among the other alternatives.

Several options were considered to determine potential alternatives that might produce fewer significant impacts, or reduce the severity of those significant impacts, compared to the Sapphire Solar Project (Project), including the No Project Alternative. Possible alternatives were assessed as to whether they would satisfy the following:

- The alternative is technically feasible.
- The alternative would avoid or substantially lessen any of the significant impacts of the Project.
- The alternative would attain most of the basic Project objectives.

As noted in Chapter 1, Introduction, Section 1.3, Project Objectives, the Applicant's objectives for the Project are as follows:

- Utilize property within Riverside County to develop an economically feasible and commercially financeable project for the delivery of up to 117 MW of affordable wholesale solar PV energy generation and up to 117 MW of battery energy storage capacity to California ratepayers under long-term contracts with electricity service providers.
- Minimize environmental impacts and land disturbance associated with solar development by maximizing facility siting on relatively flat, previously disturbed agricultural lands with high solar insolation value, near an identified "solar energy zone" / "Development Focus Area" and in close proximity to road access and established utility corridors.
- Support California's efforts to reduce greenhouse gas (GHG) emissions consistent with the timeline established in 2006 under California Assembly Bill 32, the Global Warming Solutions Act of 2006, which requires the California Air Resources Board to reduce statewide emissions of GHGs to at least the 1990

emissions level by 2020.[1] This timeline was updated in 2016 under SB 32, which requires that statewide GHG emissions are reduced to at least 40% below the statewide GHG emissions limit by 2030.[2]

- Support California's aggressive RPS Program consistent with the timeline established by SB 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases"), as approved by the California legislature and signed by Governor Brown in September 2018, which increases RPS in 2030 from 50% to 60% and establishes a goal of 100% RPS by 2045.[3]
- Further the goals of AB 1279, the California Climate Crisis Act, to achieve net zero greenhouse gas emissions no later than 2045, and SB 1020, the Clean Energy, Jobs, and Affordability Act of 2022, requiring that eligible renewable energy resources and zero-carbon resources supply 90 percent of all retail sales of electricity to California end-use customers by 2035.
- Expand the reach of renewable energy development through the creation of high-capacity battery energy storage systems (BESS) that help to solve California's "duck curve" power production problem and Increase energy storage opportunities to meet statewide renewable energy goals and support grid reliability.
- Bring sales tax revenues to Riverside County by establishing a point of sale in the County for the procurement of most major project services and equipment.
- Provide green jobs with living wages to Riverside County residents and the State of California.

During scoping, commenters recommended the following alternatives:

- Distributed Generation Alternative

Alternatives considered include the No Project Alternative, the Reduced Footprint Alternative, and the Private Linear Facility Route Alternative. An alternatives comparison is provided in Section 4.3. Alternatives considered but not carried forward for further analysis are presented in Section 4.4. This includes Distributed Solar Technology (also referred to as Distributed Generation Alternative).

4.1 Significant and Unavoidable Impacts

Chapter 3, Environmental Analysis, of this EIR describes the potential environmental impacts associated with the Project. Impacts in the following areas would be significant and unavoidable with construction, operation and maintenance (O&M), and decommissioning of the Project, even with the incorporation of feasible measures that attempt to reduce impacts.

Aesthetics:

- Threshold "c". The Project could substantially degrade the existing visual character or quality of the site and its surroundings. The resulting visual change would be adverse and unavoidable from the elevated vantage point of key observation point (KOP) 10. Incorporation of MM VIS-1 (Project Design) would not be sufficient to reduce the impact from the degree of contrast associated with solar panels experienced at KOP to a level that would be less than significant. There is no known mitigation that if implemented would soften the color contrasts associated with the solar panels at KOP 10 due to the lack of screening elements between the KOP and Project site. Additionally, because the Applicant lacks site control at KOP 10,

[1] Global Warming Solutions Act. September 2006. California State Assembly. Bill No. 32. www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf

[2] Global Warming Solutions Act: emissions limit. September 2016. California State Senate. Bill No. 32. leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32.

[3] Senate Bill No. 100. September 2018. leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100.

implementation of landscape screens to block the anticipated color contrast is not feasible. Therefore, the resulting visual change would remain significant and unavoidable.

4.2 Alternatives Analyzed in Detail

4.2.1 Alternative 1: No Project Alternative

Under the No Project Alternative, the construction of the Project and associated infrastructure would not occur. Because no project would be built and no ground disturbance would occur, none of the impacts associated with the construction, O&M, and future decommissioning of the Project to any of the resources identified and discussed in Chapter 3 would occur. The No Project Alternative would not contribute to any cumulative impacts.

The No Project Alternative would not require a Conditional Use Permit (CUP) or a Public Use Permit (PUP) for construction and operation of the solar project and associated facilities. The No Project Alternative would maintain the current agricultural preserve and the existing land uses, which consist mostly of fallow agricultural land. The No Project Alternative would fail to meet all the Applicant's objectives for the Project.

Furthermore, the No Project Alternative would not achieve any of the environmental benefits of increasing renewable energy generation consistent with the State of California's Renewable Portfolio Standard. If the energy needs that are unmet by the development of the Project are not replaced with comparable renewable sources, the development of other energy projects could result in greater emissions from, for example, the burning of fossil fuels and the replacement projects would not contribute to meeting the state's greenhouse gas reduction goals. This impact could be greater than with the Project.

The No Project Alternative also considers what would be reasonably expected to occur in the foreseeable future if the Project was not approved and did not take place. The Project site is located on private lands and within and adjacent to a DFA, near existing transmission infrastructure and an existing substation with available capacity for additional energy generation. If the Project were not constructed, it is extremely likely that a different solar developer would apply to construct an energy project in this location. If a different solar project were to be constructed in this location, the impacts of the other solar project would be similar or the same as those identified for the Project in Chapter 3 of this EIR.

4.2.2 Alternative 2: Reduced Footprint Alternative

Under this alternative, the solar site would be reduced through the removal of the parcels under a Williamson Act contract (Figure 4-1, Reduced Footprint Alternative). As a result of the reduction in the solar energy production and integrated energy storage would be equally reduced.

Under this alternative, parcels within a Williamson Act contract (approximately 639 acres) would be removed from the solar site component resulting in the total acreage of the Project being reduced to approximately 442.35 acres. The width of Linear Facility Route (LFR) B would remain the same as the Project (75 feet), however the length would increase from approximately 0.72 miles to 1.35 miles. Therefore, LFR Route B under this alternative would be located on approximately 12.46 acres, which is approximately 5.88 acres greater than the Project. The secondary access road would still be required to meet County fire requirements for emergency services access to the Project site. LFR A would remain in the same location and the same length as the Project. The dimensions and features of LFR A, such as the 230 kV gen-tie line and associate infrastructure would not change under this alternative. This alternative would include the addition of two roads and buried collection lines to tie the now separate solar areas together (Figure 4-1).

This alternative's construction, operation, maintenance, and decommissioning impacts could be significantly less than the Project due to the removal of approximately 639 acres, roughly 59%, of the solar site component on private lands. Under this alternative, a notice of Williamson Act Contract non-renewal and cancellation would not be required. While this alternative would create changes in the existing environment, it would not convert fallow agricultural land under a Williamson Act Contract to non-agricultural use. This alternative would also reduce aesthetics impacts from KOP 5 due to the significant reduction of the solar site.

This alternative would be technically, regulatory, and legally feasible and would reduce impacts to aesthetics, agricultural resources, air quality, cultural resources, energy, geology and soils, hydrology and water quality, noise and wildfire. However, it would not meet all the Project objectives because it would result in an approximately 59% reduction of the solar site land and therefore would significantly reduce the amount of area available for placement of the solar array and BESS, which would result in a reduction of the energy generation and storage capacity of the Project. In addition, a significant and unavoidable impact to aesthetics from KOP 10 would remain under this alternative.

Impact Analysis

The Reduced Footprint Alternative would generally be in the same area as the Project. This alternative but would be expected to reduce the construction timeline, involve less construction and O&M staff, and require less operational water use as the Project due to the significant reduction in the size of the solar site.

This alternative has a reduced solar footprint due to the removal of all lands under a Williamson Act contract and therefore would require less ground disturbance overall. Similar to the Project, this alternative would still require the approval of a County CUP and PUP for the construction and operation of the Project.

The impacts for the following resources are unlikely to appreciably differ from those of Project:

- Biological Resources
- Hazards and Hazardous Materials
- Land Use and Planning
- Mineral Resources
- Paleontological Resources
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

The following analyzes resources where the impacts of the Reduced Footprint Alternative could appreciably differ from those of the Project. The analyses below assume incorporation of the same mitigation measures as the Project.

Aesthetics. Because the eastern portion of the solar site is closest to and would be visible from State Route (SR) 177 (see Figure 3.2-11, KOP 5: Chuckwalla Valley Raceway Driveway at SR-177) , reducing the footprint of the solar site would reduce the visual effects on views from SR-177. Specifically, as experienced from SR-177 and KOP 5 and under the Reduced Footprint Alternative, the dark and low line created by proposed solar panels would be more distant and less apparent in the landscape compared to the Project. While the visual impact of this alternative would be reduced compared to the Project, it would not change the overall determination of a less-than-significant visual impact on views from Chuckwalla Valley Raceway Driveway at SR-177. Potential light and glare impacts under this alternative would be

similar to the Project. Also, this alternative would not eliminate the significant and unavoidable visual impacts that would occur at the North Chuckwalla Mountains Petroglyph District (KOP 10). Therefore, the overall visual impacts to the Reduced Footprint Alternative would be reduced in comparison to the those of the Project, but still significant and unavoidable.

Agriculture and Forest Resources. The Reduced Footprint Alternative would not result in the cancellation of land within Riverside County Agricultural Preserves (approximately 639 acres). Under this alternative, a notice of Williamson Act Contract non-renewal and cancellation would not be required. While this alternative would create changes in the existing environment, it would not convert fallow agricultural land under a Williamson Act Contract to non-agricultural use. Similar to the Project, the Reduced Footprint Alternative would not directly or indirectly impact farmland, as the site has no current agricultural production, and is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, impacts from the Reduced Footprint Alternative would be less than those of the Project. However, like the Project, impacts would remain less than significant.

Air Quality. The Reduced Footprint Alternative would significantly reduce the solar site component by approximately 59%. The reduction in of the solar site would result in a reduction in construction activities, reducing construction-phase emissions relative to the Project. This reduction in emissions could avoid some localized air quality impacts. Operational emissions would likely be reduced under this alternative as fewer maintenance trips would be required with the reduced Project scale. As such, similar to the Project, operational impacts would be less than significant. Overall, air quality impacts from the Reduced Footprint Alternative would be less than those of the Project. Similar to the Project, impacts would be less than significant with mitigation incorporated.

Cultural Resources. Because there are no known CRHR-eligible archaeological or historic-period built environment resources in the Project site, there are no anticipated adverse impacts to cultural resources. However, the Reduced Footprint Alternative would reduce the potential for inadvertent discovery during construction. The potential for inadvertent discoveries is considered low because the lands proposed for development of the Project's solar site have already been heavily disturbed by past agricultural use. As such, the potential direct impacts to cultural resources would be only slightly less than the Project. Similar to the Project, impacts would be less than significant with mitigation incorporated.

Energy. Similar to the Project, implementation of this alternative would increase the demand for electricity, natural gas, gasoline, and diesel consumption at the Project site during construction, operation, and decommissioning. However, the reduction of the solar site would result in a reduction in energy demand compared to the Project. Similar to the Project, impacts would be less than significant.

Geology and Soils. Because the Reduced Footprint Alternative would have the same geologic and soil features as the Project, the impacts would be similar to the Project but in a reduced area. Overall, there would be slightly less impacts compared to the Project. Similar to the Project, impacts would be less than significant with mitigation incorporated.

Greenhouse Gas Emissions. The Reduced Footprint Alternative would significantly reduce the solar site component. The reduction in of the solar site would result in a reduction in construction activities, reducing CO_2e emissions relative to the Project. Overall, greenhouse gas construction impacts from the Reduced Footprint Alternative would be less than those of the Project. While Project-related GHG impacts would remain less than significant, the 59% reduction in the production of renewable energy from this alternative would result in greater GHG impacts in comparison to the Project due to the corresponding loss in GHG offsets. Similar to the Project, impacts would be less than significant.

Hydrology and Water Quality. The Reduced Footprint Alternative would still result in construction of the solar array, substation, battery energy storage, O&M building, and other features as described for the Project. Impacts, including groundwater impacts would be reduced in magnitude due to the elimination of the lands under a Williamson Act contract and thus a reduction (approximately 59% less) in the amount of water demand. Similar to the Project, the Reduced Footprint Alternative would include completion of a NPDES form as well as implementation of mitigation measures to reduce potential impacts related to violating water quality standards or degradation of surface or groundwater quality during construction and operation of the Reduced Footprint Alternative. Related to groundwater supplies, water requirements under the Reduced Footprint Alternative, similar to the Project, would be relatively small and would represent a small portion of the established safe yield of the basin, and would not substantially deplete groundwater levels in comparison to existing conditions. Under this Reduced Footprint Alternative changes to drainage patterns would be reduced and thus a slightly reduced potential for adverse water quality and quantity impacts related to stormwater runoff. Therefore, because both the Project and Reduced Footprint Alternative would require adherence to all applicable regulations, this alternative would still result in less-than-significant impacts. However, overall, due to the reduced amount of ground disturbance and changes to drainage patterns, the Reduced Footprint Alternative would result in less impacts to hydrology and water quality compared to those of the Project.

Noise. The Reduced Footprint Alternative would remove approximately 639 acres from the solar site, which would increase the distances to the closest sensitive receptors from the sources of noise and vibration. The closest sensitive receptors include two groups of residences. One group is located on the west side of Rice Road, approximately 2,180 feet northeast of the eastern portion of the solar site included in the Project but removed under this alternative. The other group is located on the east side of Rice Road, approximately 2,015 feet east of the eastern portion of the solar site included in the Project but removed under this alterative.

Elimination of the eastern portion of the solar site would increase the distance between the solar site and the closest sensitive receptors by approximately 4,000 feet (approximately twice the distance to the closest receptors when compared to the Project, and thus up to approximately 6 dBA L_{eq} lower than levels for closest receptors under the Project). The requirement for secondary access for emergency services via LFR B would not involve a reduction in the separation distance between LFR B and these closest sensitive receptors. The removal of the eastern portion of the solar site under this alternative would result in a slight decrease in the potential for the closest sensitive receptors along Rice Road to be exposed to noise when compared with the Project's impacts. Potential vibration exposure at the closest residences to the revised Project boundaries would not be altered under the Reduced Footprint Alternative because vibration would not be detectable at these residences under the Project or the Reduced Footprint Alternative. LFR B would still be constructed, but these construction noise emissions would be offset by a reduction in construction effort from eliminating the eastern portion of the solar site. The Reduced Footprint Alternative would reduce the noise levels experienced by sensitive receptors and reduce the noise impacts when compared to the Project. Overall, noise impacts from this alternative would be less than the Project because noise attenuates with distance and the peak construction noise would be reduced at the nearest receptor; operational noise would remain less than ambient noise levels at the nearest receptors under the Project and under the Reduced Footprint Alternative. Similar to the Project, impacts would be less than significant with mitigation incorporated.

Wildfire. Like the Project, this alternative would include the installation of a centralized BESS, which would include batteries housed within containers in a centralized location near the proposed on-site substation. However, the BESS would be reduced under this alternative and therefore risk of fire ignition would be slightly reduced in comparison to the Project. Similar to the Project, most of the solar facility's equipment

would consist of solar PV panels and their mounting systems, which would be assembled from materials that are not combustible or flammable. The fire emergence risk in PV systems is very low (TUV Rheinland Energie und Umwelt GmbH 2018). Similar to the Project, wildfire impacts from this alternative would be less than significant with mitigation incorporated. Overall, wildfire impacts of the Reduced Footprint Alternative would be slightly reduced in comparison to the Project.

4.2.3 Alternative 3: Private Linear Facility Route Alternative

Under this alternative all components of the Project located on BLM lands, which include LFRs A, B_1 and B_2, would be removed and replaced with new LFRs 1 and 2 located solely on private, non-federal lands (Figure 4-2, Private Linear Facility Route Alternative). Except for the replacement of LFRs A, B_1, and B_2, all aspects of this alternative would be the same as the Project.

The private gen-tie route would be located within a new LFR 1 (Figure 4-2). Under this alternative, LFRs would be located on private, non-federal lands. LFR 1 would exit the southeast corner of the eastern portion of the Project site and proceed east for approximately 1 mile. It would then turn south and extend approximately 0.37 miles until it intersects with SR-177/Rice Road. These first approximately 1.37 miles of LFR 1 would be located on privately owned lands and would represent all new disturbance. From its intersection with SR-177/Rice Road, LFR 1 would travel southwest along the SR-177/Rice Road right-of-way for approximately 3.73 miles until it reaches the Desert Harvest Solar 230-kV transmission line. Similar to the Project, the gen-tie located within LFR 1 would line tap into the Desert Harvest Solar 230-kV transmission line. However, under this alternative the line tap would connect where the gen-tie route crosses the SR-177/Rice Road right-of-way. Additionally, a new secondary access road (LFR 2) would exit the southeast corner of the western portion of the solar site on Osborne Avenue and extend east for approximately 1.07 miles to SR-177.

The Private Linear Facility Route Alternative would meet the Project's objectives and would be technically, regulatorily, and legally feasible. However, Project costs would increase with utilization of the private gen-tie route as compared to the Project's gen-tie route. The additional gen-tie length would cost approximately $1 to $2 million per mile and accordingly, the increased length of 3.36 miles would be anticipated to increase costs by up to $7 million. The private gen-tie route would likely also result in additional expenses associated with securing land control over the first approximately 1.37 miles of the route, which are located on privately-owned lands, as well as permission to construct and operate the gen-tie within the SR-177/Rice Road right-of-way. Time required to secure land control could also contribute to delays in Project permitting and construction, which could further increase costs associated with the Project. Furthermore, this alternative could result in increased impacts to air quality, aesthetics, biological resources, cultural resources, geology and soils, hydrology and water quality and noise due to increased disturbance associated with construction of the LFRs.

Impact Analysis

The gen-tie route in the Private Linear Facility Route Alternative would be located within LFR 1 which would be approximately 5.1 miles long, which would be approximately 3.36 miles longer than the Project's proposed approximately 1.74-mile-long LFR A. At a 150-foot-wide right-of-way, the private gen-tie route would result in approximately 93 acres of permanent disturbance. Compared to the Project's gen-tie

route's permanent disturbance of approximately 34.5[4] acres, the private gen-tie route would result in an increase of permanent disturbance of approximately 58.5 acres

Under this alternative, LFR 2 would be slightly longer than the route under the Project. Under this alternative, LFR 2 would be approximately 1.07 miles long. Under the Project, LFR B would be approximately 0.72 miles long.

Overall impacts of this alternative would be greater than impacts the Project due to the increased length and disturbance acreage of the private gen-tie route. Building the gen-tie along the SR-177/Rice Road right-of-way could also present additional logistical and safety considerations.

For the following resources, impacts associated with the access road are primarily associated with ground disturbance due to improvements or with workforce use. While the Private Linear Facility Route Alternative would require improvement along a greater length of road and an increase in the distance traveled to the site, the impacts for the following resources are unlikely to appreciably differ from those of the Project:

- Agriculture and Forest Resources
- Energy
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Land Use and Planning
- Mineral Resources
- Paleontological Resources
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

The following analyzes resources where impacts could appreciably differ from those of the Project. The analyses below assume incorporation of the same mitigation measures as the Project.

Aesthetics. Visual impacts would be greater as compared to the Project due to the increase in the number of poles and transmission infrastructure needed to support the longer route. Under the Private Linear Facility Route Alternative, visual impacts associated with the gen-tie route would be consolidated onto users of SR-177/Rice Road. While this would reduce visual impacts of the Project from Kaiser Road (i.e., gen-tie poles would not extend west from the Project site to Kaiser Road and thus, would not be distinct as viewed from KOP 4), the relocation of LFRs 1 and 2 on the eastern side of the solar site would increase the anticipated form and line contrast to be viewed by northbound and southbound SR-177/Rice Road motorists. In addition, and compared to the Project, greater line contrasts may also be detectable in western-oriented views from Desert Center Airport due to assumed visibility of multiple gen-tie poles from the airport/KOP 6. While gen-tie poles would be relatively low in the landscape and viewed against the backdrop of distant mountain terrain, thin, vertical poles are likely to be noticeable in views and would result in additional impacts to visual character and view quality (under the Project, Project components would not be visible from this KOP and as such, no impacts to visual character and view quality were identified). However, this alternative would not change the overall determination of a less-than-significant visual impact on views from Chuckwalla Valley Raceway Driveway at SR-177/Rice Road. This alternative would also not eliminate avoid or substantially reduce the significant and unavoidable visual impacts that would occur at the North Chuckwalla Mountains Petroglyph District (KOP 10). Therefore, the overall visual

[4] Of the 41 acres of disturbance area associated with the Project's LFRs, approximately 34.5 acres would be permanent disturbance.

impacts from the Private Linear Facility Route Alternative would be greater than those of the Project. Similar to the Project, impacts would be significant and unavoidable.

Air Quality. Although the solar site component would remain the same under this alternative, this alternative would require improvements along a greater length of road and an increase in the distance traveled to the site. Therefore, construction activity and disturbance for this alternative is greater than the Project, resulting in greater construction phase emissions. Overall, air quality impacts from this alternative would be greater than those of the Project. Similar to the Project, impacts would be less than significant with mitigation incorporated.

Biological Resources. Under this Private Linear Facility Route Alternative, the new LFR A, including the private gen-tie route, would extend south into desert tortoise habitat, microphyll woodlands, and active wash systems. Desert tortoise habitat within the southern extent of the private gen-tie route is modeled with higher probability of occurrence than the Project gen-tie route. Microphyll woodlands and active washes are more abundant within the southern extent of the private gen-tie route compared to the Project gen-tie route. Additionally, the 3.36-mile increase in length of overhead lines may present an increase in potential collisions for birds. Therefore, the Private Linear Facility Route Alternative could result in greater impacts to biological resources compared to the Project. Similar to the Project, impacts would be less than significant with mitigation incorporated.

Cultural Resources. Under the Private Linear Facility Route Alternative, the private gen-tie route would be approximately 5.1 miles long, which would be approximately 3.36 miles longer than the Project's approximately 1.74-mile-long LFR A. At a 150-foot-wide right-of-way, the private gen-tie route would result in approximately 93 acres of permanent disturbance. Compared to the Project's gen-tie route's permanent disturbance of approximately 34.5 acres, the private gen-tie route would result in an increase of permanent disturbance of approximately 58.5 acres. Therefore, this Private Linear Facility Route Alternative would increase the potential for inadvertent discovery during construction and increase the extent and duration of cultural resources monitoring. Similar to the Project, impacts would be less than significant with mitigation incorporated.

Geology and Soils. Under this alternative, the private gen-tie route would be approximately 3.36 miles longer than the Project's approximately 1.74-mile-long LFR A and would result in an increase of permanent disturbance of approximately 58.5 acres. Additionally, LFR B would be approximately 0.35 miles longer than the route under the Project, and as a result would require additional ground disturbing activities which could expose soils to the effects of erosion.

Because of the close proximity between the Private Linear Facility Route Alternative and the Project, the impacts due to geological risk and soil erosion would be the same or relatively similar as for the Project but along a longer route. The longer route would require additional towers and associated ground disturbance and would result in slightly more erosion. Similar to the Project, this alternative is not located within an Alquist-Priolo Special Study Zone or a fault zone based on the County studies and the potential for liquefaction at the site is low. Impacts related to fault lines, subsidence, liquefaction, etc. would be relatively the same as the Project. Overall, impacts would be slightly greater than the Project due to the increased disturbances. Similar to the Project, impacts would be less than significant with mitigation incorporated.

Hydrology and Water Quality. The gen-tie route in the Private Linear Facility Route Alternative would be approximately 3.36 miles longer than the Project's proposed approximately 1.74-mile-long Linear Facility A. The gen-tie route would result in an increase of permanent disturbance of approximately 58.5 acres. LFR 2 would be approximately 0.35 miles longer than the route under the Project, and as a result would require additional ground disturbing activities, which could expose soils to the effects of erosion.

Under this alternative, LFR 1 would require additional towers and the increase in associated ground disturbance would result in slightly more potential for erosion and changes to drainage patterns, and slightly increase the amount of water demand. Similar to the Project, State and County requirements would include erosion control measures during all earthwork activities. Overall, impacts would be slightly greater than the Project due to the increased disturbances and increase in the number of towers. Similar to the Project, impacts would be less than significant with mitigation incorporated.

Noise. Under this Private Linear Facility Route Alternative, LFR 1 would be relocated slightly south of the Project's LFR B. This alternative would marginally increase the distance between LFR 1 and the closest sensitive receptors (a group of residences located approximately 2,180 feet northeast of the former LFR B and another group of residences located approximately 2,015 feet east of the former LFR B); LFR 2 under this alternative would follow Belsby Avenue from the southeastern corner of the main solar arrays area to Rice Road (SR-177/Rice Road). The relocation of the new Private Alternative LFR 2 would not decrease the distance between the Project and the closest sensitive receptors (a grouping of residences on the west side of Rice Road and another grouping of residences on the east side of Rice Road, just south of Loma Verde Road), but it would add a second LFR within approximately 4,650 feet of these sensitive receptors (under the Project, one LFR would be constructed within approximately 15,000 feet of the residences due east of the Project site, this alterative would introduce a second linear facility within this radius).

Under this alternative, the new LFR 1, including the gen-tie line, would pass within approximately 250 feet of the Green Acres Mobile Park (ST3), whereas the distance from the closest construction under the Project would be approximately 1.1 miles. Additionally, the gen-tie line construction would occur within approximately 0.68 miles of the western limit of the Lake Tamarisk Desert Resort (which has a greater concentration of residents) as compared to 1.28 miles under the Project. The relocation of Private Alternative LFR 2 and addition of the gen-tie line along Rice Road would marginally intensify construction activities and decrease the separation distance between Project construction activities and residents of Green Acres Mobile Park and the Lake Tamarisk Desert Resort. This alternative could therefore result in a slight increase in the potential for sensitive receptors along Rice Road and within Lake Tamarisk Desert Resort to be exposed to noise when compared with the impacts of the Project. Consequently, the Private Linear Facility Route Alternative could nominally increase the noise levels experienced by sensitive receptors within Green Acres Mobile Park and Lake Tamarisk Desert Resort and marginally increase the noise impacts when compared to the Project. It is not anticipated that noise impacts under the Private Linear Facility Route Alternative would reach significant levels, or that additional mitigation measures would be required; however, sensitive receptors could experience greater annoyance from noise under the Private Linear Facility Route Alternative, in comparison to the Project. Potential vibration exposure at the closest residences to the revised Project boundaries would not be altered under the Private Linear Facility Route Alternative because vibration would not be detectable at these residences under the Project or the Private Linear Facility Route Alternative. Therefore, noise impacts from the Private Linear Facility Route Alternative would be greater than those of the Project. Similar to the Project, impacts would be less than significant with mitigation incorporated.

4.3 Comparison of Alternatives

This comparison is based on the assessment of environmental impacts of the Project and each alternative, as identified in Chapter 3, Environmental Analysis, and in Section 4.2, Alternatives Analyzed in Detail.

CEQA requires the following for alternatives analysis and comparison (14 CCR 15126.6[d]):

> The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the Proposed Project. A matrix displaying the

> major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.

If the environmentally superior alternative is the No Project Alternative, CEQA requires identification of an environmentally superior alternative among the other alternatives (14 CCR 15126.6[e][2]).

A summary of the significant impacts that cannot be mitigated is described above under the subheading "Significant and Unavoidable Impacts" in Chapter 4. Highlighting the Project's significant and unavoidable impacts identifies the impact of concern when considering whether there is an alternative that would be capable of reducing these effects to a less-than-significant level, and whether an alternative would create new significant impacts. This simplifies identification of the environmentally superior alternative while considering all issue areas equally.

The environmental impacts of the Project were compared to those of each alternative to determine the environmentally superior alternative. The environmentally superior alternative was then compared to the No Project Alternative.

4.3.1 Comparison of Alternatives Summary

Each alternative was evaluated for its ability to meet the Applicant's Project objectives and purpose and need for the Project, which are listed in the Executive Summary, Section ES.2, Project Objectives. The No Project Alternative (Alternative 1) would fail to meet any of the Project's objectives and would not achieve any of the environmental benefits of increasing renewable energy generation consistent with the State of California's Renewable Portfolio Standard (RPS). The Reduced Footprint Alternative (Alternative 2) would not fully meet all of the Project's objectives including delivery of up to 117 MW of solar energy generation, maximizing of siting on previously disturbed agricultural lands near identified Solar Energy Zone and Development Focus Area lands, and bringing sales tax and green job benefits to Riverside County. The Reduced Footprint Alternative would assist Californians in meeting their renewable energy generation goals. However, Alternative 2 would generate and store a significantly less amount of renewable energy compared with the Project, and as a result could assist Californians to a significantly lesser degree in meeting their renewable energy generation goals.

The Private Linear Facility Route Alternative (Alternative 3) would meet most of the Project's objectives, which include the provision of environmental benefits; however, it would achieve these objectives to a lesser extent compared with the Project due to the increase in impacts to aesthetics, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hydrology and water quality, and noise.

Table 4-1 compares the potential impacts of the Project to the solar facility alternatives. As described above and indicated in Table 4-1, the Reduced Footprint Alternative (Alternative 2) would slightly reduce the Project's aesthetic impacts by setting the Project farther back from Rice Road/SR-177, but the significant and unavoidable impact from KOP 10 would remain. The Private Linear Facility Route Alternative (Alternative 3) would not avoid or substantially lessen the Project's significant and unavoidable impact to aesthetics at KOP 10 or result in a change to overall impact classifications or significance conclusions and would increase the Project's significant and unavoidable aesthetic impacts by extending a gen-tie along Rice Road/SR-177.

Table 4-1. Comparison of Alternatives to the Project

	Alternative 1: No Project	Alternative 2: Reduced Footprint	Alternative 3: Private Linear Facility Route
Environmental Resource			
Aesthetics	Fewer	Slightly fewer	Slightly greater
Agriculture and Forest Resources	Fewer	Fewer	Similar
Air Quality	Fewer	Fewer	Slightly greater
Biological Resources	Fewer	Similar	Slightly greater
Cultural Resources	Fewer	Slightly Fewer	Slightly greater
Energy	Fewer	Slightly Fewer	Slightly greater
Geology and Soils	Fewer	Slightly fewer	Slightly greater
Greenhouse Gas Emissions	Fewer	Slightly greater	Slightly greater
Hazards and Hazardous Materials	Fewer	Similar	Similar
Hydrology and Water Quality	Fewer	Slightly fewer	Slightly greater
Land Use and Planning	Fewer	Similar	Similar
Mineral Resources	Fewer	Similar	Similar
Noise	Fewer	Slightly fewer	Slightly greater
Paleontological Resources	Fewer	Similar	Similar
Population and Housing	Fewer	Similar	Similar
Public Services	Fewer	Similar	Similar
Recreation	Fewer	Similar	Similar
Transportation	Fewer	Similar	Similar
Tribal Cultural Resources	Fewer	Similar	Similar
Utilities and Service Systems	Fewer	Similar	Similar
Wildfire	Fewer	Slightly fewer	Similar

[1] The No Project Alternative would have no impacts, and the terms "fewer" and "greater" are used for ease of reference only. "Fewer" is used to indicate that the alternative, such as the No Project Alternative, would create reduced or fewer impacts than the Project would create. The term "greater" indicates that the alternative would result in a greater level of impact than would the Project.

4.3.2 Comparison of the Project and No Project Alternative

The No Project Alternative would avoid impacts from the construction, O&M, and future decommissioning of the Project. This alternative would result in no impacts to aesthetics, agriculture and forest resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, paleontological resources, population and housing, public services, recreation, and transportation, tribal cultural resources, utilities and service systems, and wildfire. It would not realize the beneficial impacts of the Project relating to long-term air quality, energy production, and greenhouse gas emissions with the use of renewable energy generation and storage. Additionally, it is very likely that if the No Project Alternative were selected, another solar project may be proposed in the same location. The No Project Alternative would fail to meet all the Applicant's objectives for the Project.

4.3.3 Environmentally Superior Alternative

Section 15126.6 of the CEQA Guidelines requires that an EIR 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 4-1 summarizes the comparison of impacts between the alternatives to the Project to help determine the environmentally superior alternative. As described in Section 4.2 and presented in the comparative summary in Table 4-1, the environmentally superior alternative for the Project would be the No Project Alternative. No substantially adverse and long-term impacts would occur to the environment under the No Project Alternative. The No Project Alternative would also avoid the impacts of the Project analyzed in Chapter 3. However, it is possible that if the Project is not approved, another solar project would be constructed that would have impacts similar to the Project.

In accordance with Section 15126.6 of the State CEQA Guidelines, the Reduced Footprint Alternative would be the Environmentally Superior Alternative since it would result in fewer impacts to environmental resources compared to the Private Linear Facility Route Alternative. The Reduced Footprint Alternative would have a reduced level of ground disturbance and would be a greater distance from the closest residences, which would reduce construction-related disturbances such as noise. However, under the Reduced Footprint Alternative, impacts to aesthetics would remain significant and unavoidable.

Although the Reduced Footprint Alternative would be feasible it would not meet all the Project objectives because it would reduce the amount of land available for placement of the solar array and BESS, which would result in a reduction of the energy generation and storage capacity of the Project, would not be economically feasible or commercially financeable project, and would not maximize the full potential of the solar resource on lands within the Project property. However, because the Reduced Footprint Alternative would achieve many of the Project objectives, however to a lesser extent than the Project, and would have fewer impacts when compared to the Project, the Reduced Footprint Alternative is considered environmentally superior.

4.4 Alternatives Considered and Eliminated from Further Analysis

Several alternatives were considered but eliminated from further analysis.

4.4.1 Alternative Solar Technologies

The following alternative solar technologies were screened and eliminated from detailed analysis since they are infeasible or would have greater impacts.

Solar Power Tower Technology

Solar power tower technology is a concentrating solar power (CSP) technology that 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 [°F]) to produce steam and run a center 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 CSP power tower facility is comparable to that required for a PV project. This alternative was eliminated from consideration because no substantial reduction in impacts would occur

under this alternative technology and visual impacts would likely be greater due to the height of the towers. In addition, due to the extent of the facility and the height of the power towers as well as a greater potential for glare, impacts to the Desert Center Airport would be potentially greater under this alternative. It has also been suggested that due to a phenomenon known as "solar flux," power tower projects pose a greater risk to avian species by creating an invisible zone where the concentrated solar power can singe feathers and interfere with flight. The fact that the nearby Palen Solar Energy Project was previously evaluated as a solar power tower project and struggled to secure approvals due to these same impacts before switching to PV solar technology further supports the conclusion that this technology is not feasible in this area.

Solar Parabolic Trough Technology

Parabolic trough technology is another CSP technology that uses large, U-shaped (parabolic) reflectors (focusing mirrors) that have fluid-filled pipes running along their center, or focal point. The mirrored reflectors are tilted toward the sun and focus sunlight on the pipes to heat the heat transfer fluid inside, similar to the solar power tower technology. The hot fluid is then used to boil water, which makes steam to run conventional steam turbines and generators. Solar trough fields have stringent grading requirements, as parabolic troughs must be almost level along their troughs, and grades perpendicular to the troughs are generally benched to 2% or less. Therefore, most of the solar site would need to be graded and scraped free of vegetation. Use of solar trough technology would also likely require engineered drainage channels along the solar site boundary to intercept any modeled off-site surface flows and convey them around and through the site for discharge. Therefore, similar to solar power tower and other CSP technologies, parabolic trough technology has been eliminated from consideration because it would have the potential for more severe impacts than the proposed solar PV technology. These impacts would include more dramatic degradation of visual resources (due to use of mirrors), more extensive ground disturbance, increased industrial construction for the turbines and power blocks, and use of potentially hazardous heat transfer fluids. The fact that the nearby Palen Solar Energy Project was previously evaluated as a solar trough project (as well as a solar power tower project) and struggled to secure approvals due to these same impacts before switching to PV solar technology further supports the conclusion that this technology is not feasible in this area.

Distributed Solar Technology

There is no single accepted definition of distributed solar technology. The 2011 Integrated Energy Policy Report 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 PV panels that would absorb solar radiation and convert it directly to electricity. The PV panels could be installed on residential, commercial, or industrial building rooftops, parking lots or areas adjacent to existing structures such as substations. To create a viable alternative to the Project, there would have to be sufficient newly installed panels to generate up to 117 MW of capacity, which would be similar in size to the Project. Alternatives to the Project that involve rooftop installation of solar generating facilities would avoid the loss of carbon sequestration that would otherwise occur due to the land use change related to construction and operation of the Project. Although there is potential to achieve up to 117 MW of distributed solar energy in the greater California area, the limited number of existing facilities makes it unlikely to be feasible or present environmental benefits. 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, the additional work needed to prepare rooftops to support a solar installation, and the need to develop the deals to secure the same amount of PV-produced electricity make this type of alternative infeasible. The fact that distributed generation projects might have fewer impacts on certain resources because they do not utilize substations and transmission facilities 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 MWs 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. Challenges associated with the implementation of a distributed solar technology include widely varying codes, standards, and fees; environmental requirements and permitting concerns; interconnection of distributed generation; inefficiencies; and integration of distributed generation. The significant barriers to consolidating power generated through a distributed network of sites would furthermore make it unlikely that the Project could achieve its storage goals and provide energy when the sun is not shining.

As a result, this technology was eliminated from detailed analysis as an alternative to the Project.

4.4.2 Alternative Renewable Energy Technologies

Alternative renewable energy technologies, such as geothermal, biomass, tidal and wave power technologies, have been eliminated from consideration because they are not within the Applicant's area of expertise and would not be technically or economically feasible for the Applicant to implement. The BLM DFA lands within the Desert Center area have been targeted for solar energy development and are not within a wind energy zone. Given their height, installation of wind turbines would create greater operational visual impacts than the Project, as well as noise concerns to the community of Lake Tamarisk and aviation safety concerns around the Desert Center Airport.

4.4.3 Conservation and Demand-Side Management

This alternative is not technically feasible as a replacement for the Project because California utilities are already required to achieve aggressive energy efficiency goals. Affecting consumer choice to the extent that would be necessary for a conservation and demand-side management solution would be beyond the BLM, Regional Water Quality Control Board, and/or the Applicant's control. Even if additional energy efficiency beyond that occurring in the baseline condition may be technically possible, it is speculative to assume that energy efficiency alone would achieve the necessary greenhouse gas 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. Furthermore, conservation and demand-side management would not by themselves provide the renewable energy required to meet the California renewable energy goals, a stated Project objective. Therefore, conservation and demand-side management has been eliminated from detailed analysis because it is considered remote or speculative and would not meet the stated Project objectives.

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Figure 4-1 Reduced Footprint Alternative

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Figure 4-2 Private Linear Facility Route Alternative

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5 Other CEQA Considerations

Chapter 5 includes discussions of various topics required by the California Environmental Quality Act (CEQA). These topics include Section 5.1, Significant and Unavoidable Environmental Impacts; Section 5.2, Irreversible and Irretrievable Commitments of Resources, including energy use; and Section 5.3, Growth-Inducing Impacts.

5.1 Significant and Unavoidable Environmental Impacts

5.1.1 Significant Direct Effects

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 Analysis, of this EIR describes the potential environmental impacts from the Sapphire Solar Project (Project). Impacts to the following resource would be significant and unavoidable with construction and operation of the Project, even with the incorporation of feasible Mitigation Measures (MMs) that attempt to reduce impacts. Note that these conclusions apply to the Project (described in Chapter 2, Description of the Project) even after consideration of alternatives, with exception of the No Project Alternative (described in Chapter 4, Alternatives), either because the alternative is infeasible or it worsens impacts to other sensitive resources.

Aesthetics:

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

Components of the Project (primarily solar panels but also the gen-tie line and collection system poles) would have varying degrees of visibility from the surrounding area based on elevation of the vantage point, proximity to the Project site, and the presence (or lack thereof) of intervening screening elements such as vegetation, terrain, and/or structures. Operation of the Project could substantially degrade the existing visual character or quality of the site and its surroundings, specifically from key observation point (KOP) 10, North Chuckwalla Mountains Petroglyph District. KOP 10 is located on Interstate (I) 10 approximately 3.5 miles to the south of the Project site. It is oriented to the north and is representative of the views available to motorists as they pass through the Chuckwalla Valley and Desert Center area. When experienced from the elevated vantage point of KOP 10, introduction of the Project on the valley floor would create moderate color contrast. While the form of individual solar panels would not be clear, the installation of panels would appear as a broad, dark, and flat geometric form that would stand out against the muted tones of desert terrain and vegetation. In addition, access roads and the denuded perimeter around the solar field would create moderate color and line contrasts. Due to proximity, the color of Project solar panels would be more distinct than more distant panels of solar development to the north and, as a result, strong contrasts are anticipated. Therefore, when viewed from KOP 10, impacts would be potentially significant absent MMs. Implementation of MM VIS-1 (Project Design) would reduce the visual contrast of perceptible landscape alteration; however, the degree of contrast associated with solar panels at KOP 10 would remain strong and, thus, significant and unavoidable. No mitigation would

be deemed feasible to further reduce visual impacts due to the Project from I-10. Therefore, the resulting visual change would remain significant and unavoidable.

5.1.2 Significant Cumulative Effects

According to Section 15355 of the CEQA Guidelines, the term cumulative impacts "refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Individual effects that may contribute to a cumulative impact may be from a single project or several separate projects. Individually, the impacts of a project may be relatively minor, but when considered along with impacts of other closely related or nearby projects, including newly proposed projects, the effects could be cumulatively considerable.

The cumulative scenario and analysis methodology is included within each resource section in Chapter 3 of this EIR. Project impacts are cumulative when they are combined with impacts from past, present, and reasonable future projects. Impacts would be considered cumulatively significant for the following issue area:

- **Aesthetics:** In addition to past and present uses such as the communities of Desert Center and Lake Tamarisk, agricultural uses such as aquaculture and the palm tree farms, and solar projects like Desert Sunlight and Desert Harvest and their associated transmission lines, the cumulative scenario also includes multiple approved large-scale solar plants and transmission lines either presently or soon to be under construction whose scale and pervasiveness will contribute to adverse visual cumulative effects. If all the projects were implemented, they would introduce substantial visual contrast associated with discordant geometric patterns in the landscape; large-scale, built facilities with prominent industrial character; unnatural lines of demarcation in the valley floor landscape; inconsistent color contrasts; and visible night lighting within the broader Chuckwalla Valley. As a result, the Project in combination with the cumulative projects would result in significant cumulative visual impacts when viewed by sensitive viewing populations along I-10 and State Route 177, from nearby residences, and in the surrounding mountains and wilderness. Effective incorporation of MM VIS-1 (Project Design) would reduce the severity of the cumulative visual effects, though not to levels that would be less than significant. However, the Project site is surrounded by land designated as SEZ and DFA, much of which is either developed with other solar projects, including those listed above, or under application for development of solar projects. Therefore, the significant cumulative temporary visual effects that the Project will contribute to are the consequence of deliberate policy decisions to concentrate utility scale solar development in the Chuckwalla Valley.
- **Cultural Resources**: The addition of more industrial components to the Chuckwalla Valley as a result of the Project contributes in a small but measurable way to create a visual intrusion upon the setting of the Prehistoric Trails Network Cultural Landscape (PTNCL), particularly from character defining features within the landscape. To mitigate such visual impacts, the Project would implement Mitigation Measures CUL-1 through MM CUL-7 and MM VIS-1, which would avoid and minimize impacts to archaeological resources and employ design elements that reduce the Project's visual contrast to characteristics of the landscape, reducing project-level impacts to less than significant. Cumulative projects would likely be required to implement similar measures. However, while the implementation of these mitigation measures helps to reduce the Project's contribution to adverse visual impacts upon the resource, seen in combination with past projects, other current projects, and probable future projects, cumulative visual impacts to the PTNCL would remain significant, and the Project's incremental contribution would be cumulatively considerable.
- **Tribal Cultural Resources**: The addition of more industrial components to the Chuckwalla Valley as a result of the Project contributes in a small but measurable way to create a visual intrusion upon the

setting of the PTNCL, particularly from character defining features within the landscape. To mitigate such visual impacts, the Project would implement Mitigation Measures TCR-1, MM TCR-2, CUL-1 through MM CUL-7, and MM VIS-1, which would avoid and minimize impacts to archaeological resources and employ design elements that reduce the Project's visual contrast to characteristics of the environment, reducing project-level impacts to less than significant. Cumulative projects would likely be required to implement similar measures. However, while the implementation of these mitigation measures helps to reduce the Project's contribution to adverse visual impacts upon the PTNCL as a resource, seen in combination with past projects, other current projects, and probable future projects, cumulative visual impacts to the PTNCL would remain significant, and the Project's incremental contribution would be cumulatively considerable.

5.2 Irreversible and Irretrievable Commitments of Resources

CEQA Guidelines Section 15126.2 requires a discussion of any irreversible or irretrievable commitments of resources that implementation of a proposed project or alternative would cause. CEQA Guidelines Section 15126.2(c) states "uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely." Both primary and secondary impacts of a project generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with a project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified. Therefore, the purpose of this discussion is to identify any significant irreversible environmental changes brought about by the Project.

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 petroleum fossil fuel resources, petrochemical products, metals such as raw material for steel, aggregate minerals including sand and gravel, 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 environment.

Construction of the Project or alternatives would commit nonrenewable resources during construction and ongoing utility services during operation. The Applicant anticipates that at least 65% of construction waste would be recycled, reused, composted, and/or salvaged. The Project would install battery energy storage system (BESS) units and solar photovoltaic panels manufactured from metals, such as thin-film panels (including crystalline silicon panels, copper indium gallium selenide panels, bifacial panels, or cadmium telluride panels). During operation, oil, gas, and other nonrenewable resources would be consumed for maintenance purposes, although on a limited basis. See Section 3.7, Energy, for more information.

At the end of the operational life of the Project, the Applicant would decommission the Project and remove the systems and their components. All decommissioning and restoration activities would adhere to the requirements of the Closure, Decommissioning, and Reclamation Plan, as well as the appropriate governing authorities and in accordance with all applicable federal, state, and County regulations. Because the photovoltaic arrays' supporting equipment would sit on the surface of the land, the land would be largely unaltered from its natural state when the arrays are removed after the Project's lifetime. Upon ultimate decommissioning, most components would be suitable for recycling or reuse.

The Project is a renewable energy project intended to generate solar energy to reduce reliance on fossil fuels. Over the minimum 39-year Conditional Use Permit term for 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.

5.3 Growth-Inducing Impacts

CEQA Guidelines Section 15126.2(d) requires analysis of the growth-inducing impacts of the Project. The discussion should identify the ways in which a project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. This includes projects that remove obstacles to population growth, such as by extending public services into areas not previously served. Growth inducement can also result from actions that encourage development or encroachment into 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.

This growth-inducing impact analysis considers the following four criteria, and whether the Project would result in:

- Removal of an obstacle to growth (e.g., establishment of an essential public service or the provisions of new access to an area)
- Economic expansion or growth (e.g., changes in revenue base or employment expansion that would require construction of new facilities that could cause significant environmental effects)
- Establishment of a precedent-setting action (e.g., a change in zoning or general plan amendment approval)
- Encouraging development or encroachment into an isolated area or open space.

Should a project meet any one of the criteria listed above, it can be considered growth inducing.

Removal of an Obstacle to Growth. The Project would result in the conversion of land areas that formerly supported mixed-use agricultural practices to renewable energy use. The Project site does not currently support active irrigated crop production; however, portions of the private lands associated with the Project are located on lands subject to active Williamson Act contracts. As part of the County's Williamson Act contract cancellation process, the parcels under a Williamson Act contract within the Project site would be removed from the County's Agricultural Preserves.

The Project would be constructed within the Desert Center Area Plan Boundary of the Riverside County General Plan. The private lands associated with the Project are designated as Open Space, Rural, and Agriculture per the Riverside County General Plan. The private lands associated with the Project are located within lands zoned as A-1-20 Light Agriculture and W-2-10 Controlled Development Areas. In accordance with Riverside County Ordinance No. 348, solar power plants on lots 10 acres or larger are permitted through a Conditional Use Permit within the A-1-20 Light Agricultural and W-2-10 Controlled Development Areas zoning designations. The Applicant is seeking a minimum 39-year Conditional Use Permit and Public Use Permit for the construction, operation, and decommissioning of the proposed solar facility and related infrastructure, as well as a Public Use Permit for portions of the gen-tie line that would traverse County roads (Osborne Road and Kaiser Road).

A portion of the Project, specifically the Linear Facility Routes, would be developed on undeveloped federal land in an area identified for renewable energy in the Bureau of Land Management Western Solar

Plan, specifically in an area designated as a SEZ in the Desert Renewable Energy Conservation Plan (DRECP). The Project would not result in the establishment of an essential public service and would not provide new access to a previously inaccessible area. As a result, the Project would not cause significant growth inducement under this criterion.

Economic Expansion or Growth. Short-term economic growth could occur during the construction and future decommissioning periods because the Project and the construction schedules of other overlapping projects could create a demand for workers that may not be met by the local labor force, thereby inducing temporary in-migration of non-local labor and their households from the broader region. Given the number of solar projects proposed in the Desert Center area, workers may stay on and continue to work in the area following construction of the Project if jobs on other solar projects are available. Construction of the Project alone, or of any of the proposed nearby projects, which are also primarily solar projects, would create few long-term jobs. Following construction, up to eight full-time or part-time staff would be employed to manage ongoing operation, maintenance, and repairs to the solar facilities, gen-tie and access roads. The Project's workforce could contribute to an increase in tax revenues for the State of California and Riverside County; however, the limited permanent employment expansion would not result in the need for new or physically altered community-serving facilities. As a result, the Project would not be growth inducing for its effects on economic expansion or growth.

Establishment of a Precedent-Setting Action. The Project would result in a conditionally permitted use, resulting in the development of a solar facility and related infrastructure in the vicinity of other existing and approved solar projects and in an area identified by planning documents as appropriate for renewable development. The Project would be similar to the other cumulative projects in eastern Riverside County, many of which are utility-scale renewable energy facilities. The Project would not establish a precedent-setting action such as a change in zoning or general plan amendment. Instead, it follows precedents set by renewable energy planning policies and by other utility-scale solar projects permitted and built nearby. Therefore, the Project would not be growth inducing under this criterion.

Development or Encroachment into an Isolated Area or Open Space. The Project would result in a change to former agricultural land in an area surrounded by existing, planned, or under construction solar projects in an area that was designated as appropriate for renewable development by the Bureau of Land Management. The Project would not involve the development of a residential component that would directly facilitate population growth in the area. Additionally, the Project would not involve the development of new water systems or sewer systems. Infrastructure improvements to serve the Project would be limited and would not be available to serve surrounding areas. Therefore, the Project would not result in growth inducement through development or encroachment into an isolated area or open space.

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6 List of Preparers and Organizations Consulted

An Environmental Impact Report (EIR) is an interdisciplinary team effort. In addition, internal review of the document occurs throughout preparation at multiple levels. The County of Riverside (County) is the California Environmental Quality Act (CEQA) lead agency supported by their environmental contractor, Dudek, during the CEQA review process. Dudek prepared the Administrative Draft EIR for the County's review, and provided technical assistance in the preparation of this document. The preparers and technical reviewers of this document are presented below, along with a list of organizations consulted.

Table 6-1. List of Preparers and Reviewers

Name	Position	Primary Responsibility
Riverside County – CEQA Lead Agency		
Timothy Wheeler	Principal Planner	Riverside County, CEQA Lead Agency
Darren Edgington	Environmental Project Manager	Riverside County, CEQA Lead Agency
Dudek – Lead Agency Contractor		
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Chelsea Ohanesian	CEQA Lead	Quality Assurance/Quality Control, Agriculture and Forestry Resources, Land Use and Planning, Recreation
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Christopher Starbird	Environmental Planner	Glare Analysis
Clarisa Olaguez	Environmental Planner	General Support
Daria Sarraf	Environmental Planner	Air Quality, Greenhouse Gas, Energy
Sarah Halterman	Air Resources Specialist	Air Quality, Greenhouse Gas, Energy
Jessica Baldridge	Biologist	Biological Resources
Loukas Barton	Archaeologist	Cultural Resources, Tribal Cultural Resources
Eric Schniewind	Environmental Geologist	Geology
Devin Pritchard-Peterson	Hydrogeologist	Hydrology and Water Quality
Sarah Siren	Paleontologist	Paleontological Resources
Jonathan Leech	Acoustician	Noise
Audrey Herschberger	Environmental Engineer	Hazards and Hazardous Materials
Alison Sells	Fire Protection Planner	Wildfire
Lisa Maier	Fire Protection Planner	Wildfire
Mladen Popovic	Transportation Specialist	Transportation
Owen Baer	Environmental Planner	General Support
Michael Williams	Paleontologist	Paleontological Resources
Lia Kershaw	Technical Editor	Editing
Hailee McOmber	GIS Specialist	Figures and data support
Morgan Maddox-Ramsey and Laura Reed	Formatting Specialists	Formatting
Applicant Environmental Contractors		
Chronicle Heritage (formerly known as PaleoWest)		
Matthew Tennyson	Principal Archaeologist	Cultural Resources, Tribal Cultural Resources, Paleontological Resources
Kyle Knabb	Senior Archaeologist	Cultural Resources
Heather Clifford	Senior Paleontologist	Paleontological Resources

Table 6-1. List of Preparers and Reviewers

Name	Position	Primary Responsibility
	Ironwood	
Chris Blandford	Principal Biologist	Biological Resources
Danna Hinderle	Senior Biologist	Biological Resources
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Gregory Farrand	Principal Geologist	Geological Desktop Evaluation
Christina Tretinjak	Senior Project Geologist	Geological Desktop Evaluation
	Practical Environmental Solutions	
Mark Larocque	President	Phase I and II Environmental Site Assessments

6.1 Agencies Consulted during Preparation of the EIR

The following is a list of organizations consulted during preparation of the EIR:

Bureau of Land Management, Palm Springs Field Office: Amanda Moore, Regan Watt, and Brandon Anderson