FAA (Federal Aviation Administration). 2023. Obstruction Evaluation Notice Criteria Tool [online program]. Accessed August 9, 2023. https://oeaaa.faa.gov/oeaaa/external/gisTools/gisAction.jsp?action=showNoNoticeRequiredToolForm.

GreenInfo. 2021. California School Campus Database [online database]. Updated 2021. Accessed August 9, 2023. https://www.californiaschoolcampusdatabase.org/.

NETR (Nationwide Environmental Title Research). 2023. Historic Aerials [online database]. Accessed November 28, 2023. www.historicaerials.com.

RCDWR (Riverside County Department of Waste Resources). 2023. *Semi-Annual Compliance Monitoring and Annual Summary Report for the Desert Center Sanitary Landfill*. February 2023.

SFRWQCB (San Francisco Regional Water Quality Control Board). 2019. Environmental Screening Levels. January 2019. Available by request. https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/sitecleanupprogram.html#RequestingOversight.

USACE (U.S. Army Corps of Engineers). 1994. *Defense Environmental Restoration Program, Formerly Used Defense Sites, Findings and Determinations of Eligibility, Desert Center Division Camp, Site No. J09CA034200*. September 12, 1994.

U.S. Department of Agriculture. 2022. CropScape – Cropland Data Layer [interactive map application]. Accessed May 2023. https://nassgeodata.gmu.edu/CropScape/.

USGS and CGS (U.S. Geological Survey and California Geological Survey). 2011. *Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California*. USGS Open-File Report 2011-1188, prepared in cooperation with CGS California Geological Survey Map Sheet 59. Prepared by B.S. Van Gosen, USGS, and J.P. Clinkenbeard, CGS. Accessed August 2023. https://pubs.usgs.gov/of/2011/1188/.

Wilken, J.A., G. Sondermeyer, D. Shusterman, J. McNary, D. Vugia, A. McDowell, P. Borenstein, D. Gilliss, B. Ancock, J. Prudhomme, D. Gold, G.C. Windham, L. Lee, and B.L. Materna. 2015. "Coccidioidomycosis among Workers Constructing Solar Power Farms, California, USA, 2011–2014." *Emerging Infectious Diseases* 21(11): 1997–2005.

INTENTIONALLY LEFT BLANK

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

BLM (Bureau of Land Management). 2011. *Plan Amendment Final EIS for the Palen Solar Power Project*. United States Department of the Interior Bureau of Land Management, Palm Springs–South Coast 8 Field Office, Palm Springs, California. DOI Control No. FES 11-06.

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

DWR (California Department of Water Resources). 2004. "Hydrologic Region Colorado River, Chuckwalla Valley Groundwater Basin." *California's Groundwater Bulletin 118*. Updated February 27, 2004. Accessed August 2023. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/7_005_ChuckwallaValley.pdf.

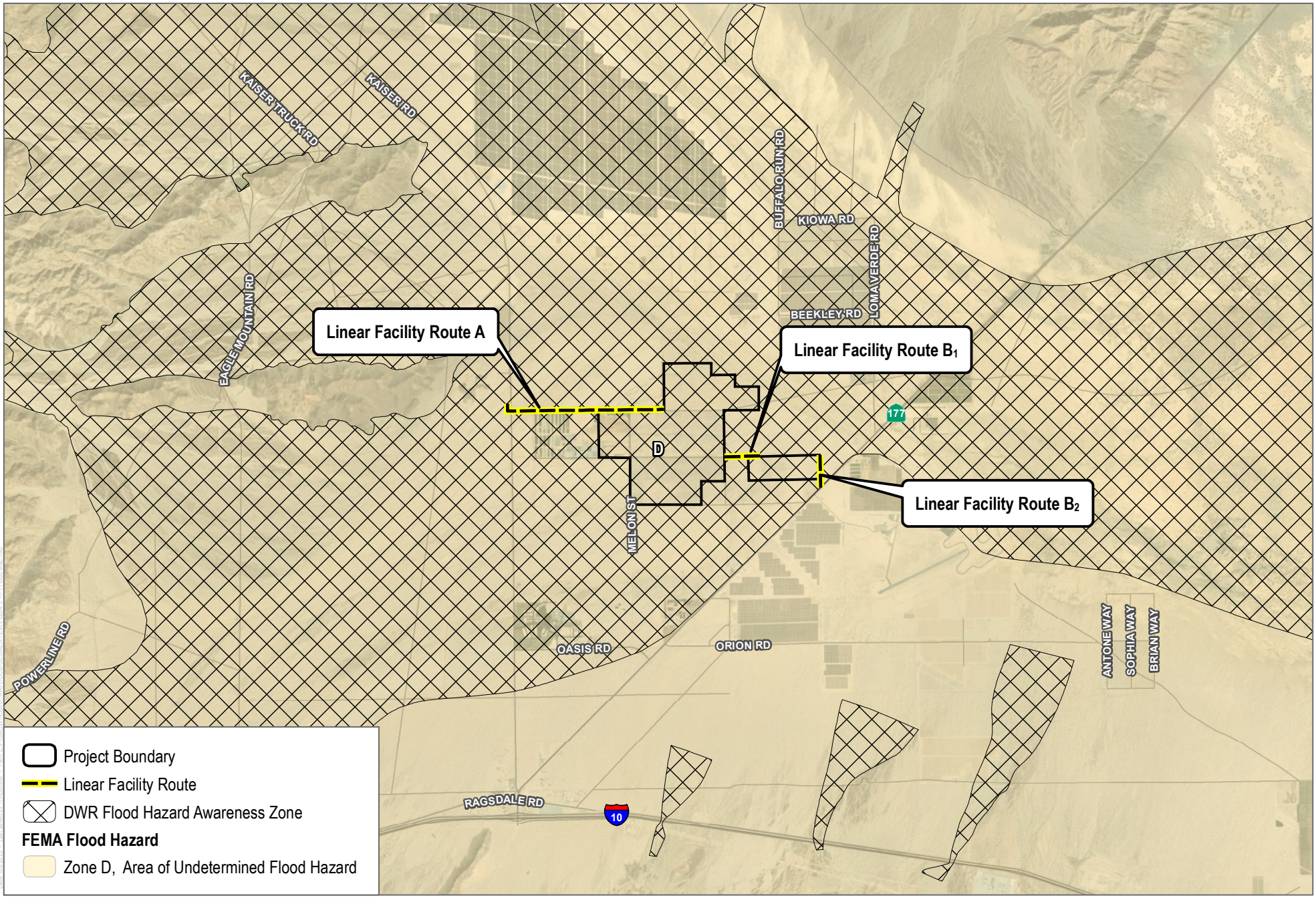
DWR. 2023. SGMA Basin Prioritization Dashboard. Accessed August 2023. https://gis.water.ca.gov/app/bp-dashboard/final/

RWQCB (California Regional Water Quality Control Board). 2019. *Water Quality Control Plan for the Colorado River Basin Region*. California Regional Water Quality Control Board, Colorado River Basin Region. Accessed August 2023. https://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/.

SWRCB (California State Water Resources Control Board). 2022. *Final Staff Report, 2020-2022 Integrated Report for Clean Water Act Sections 303(d) and 305(b)*. February 16, 2022. Accessed August 2023. https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2020_2022_integrated_report.html.

U.S. Drought Monitor. 2023. "California" [drought map]. Map released: Thursday, November 30, 2023. Accessed December 2023. https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?CA.

USGS (U.S. Geological Survey). 2009. *Update of the Accounting Surface Along the Lower Colorado River*. Prepared in cooperation with the Bureau of Reclamation. Scientific Investigations Report 2008-5113. Accessed August 2023. https://pubs.usgs.gov/sir/2008/5113/.



SOURCE: Esri World Imagery Basemap (accessed 2022); County of Riverside 2022; FEMA 2023; DWR 2023

DUDEK

0 0.5 1 Miles

FIGURE 3.11-1

Flood Map

Sapphire Solar Project

INTENTIONALLY LEFT BLANK

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.

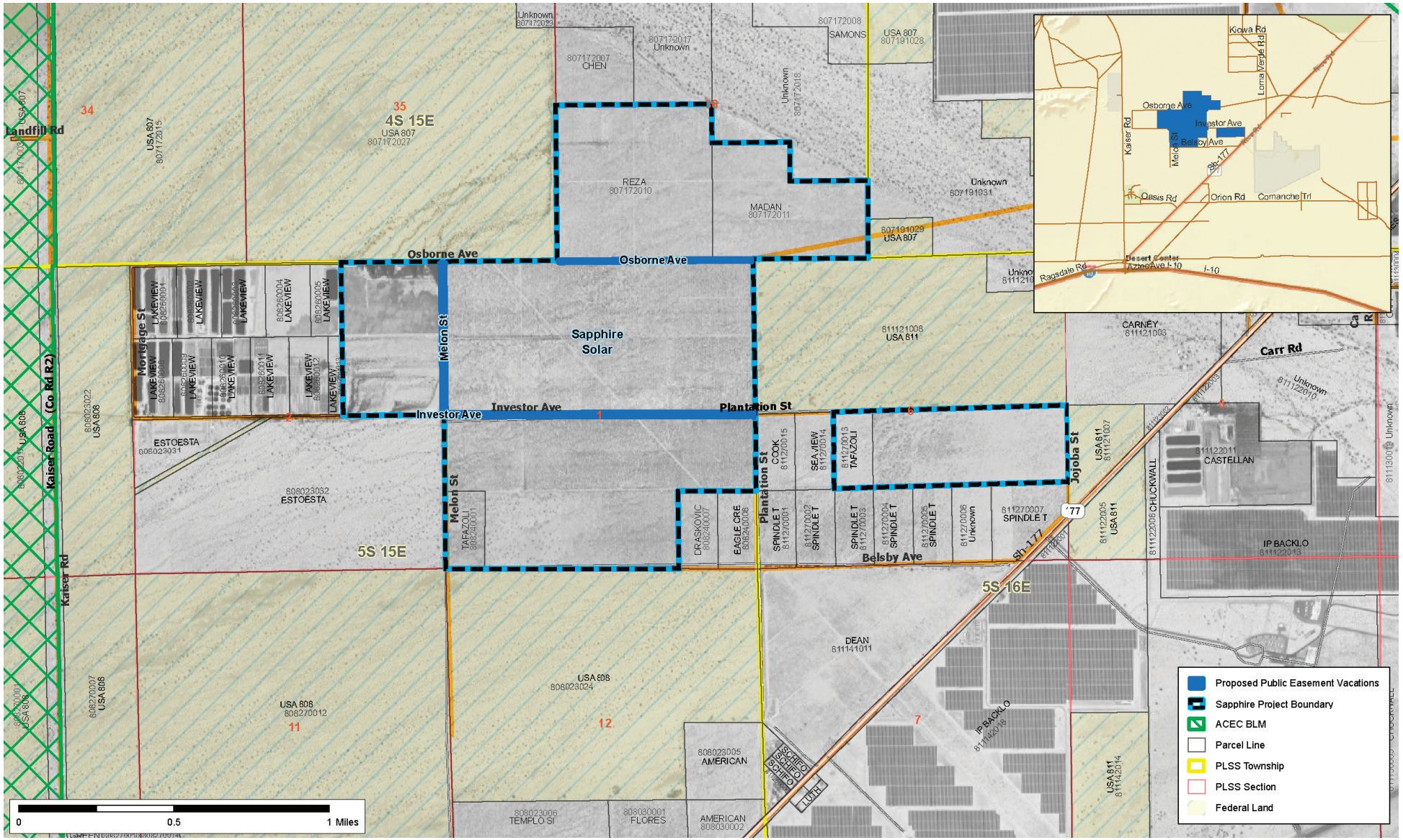
3.12.5 References

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.

County of Riverside. 2021a. "Land Use Element." Chapter 3 in *Riverside County General Plan*. September 28, 2021. Accessed October 2023. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-Ch03-Land-20Use-FINAL-209-28-21.pdf.

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

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.



SOURCE: EDF 2023

FIGURE 3.12-1

Public Easement Vacations

Sapphire Solar Project

DUDEK

INTENTIONALLY LEFT BLANK

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

CalGEM (California Geologic Energy Management Division). 2023. "Well Finder CalGEM GIS" [interactive map]. Accessed May 23, 2023. https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx.

CGS (California Geological Survey). 2018. *Aggregate Sustainability in California, 2018*. Accessed May 2023. https://www.conservation.ca.gov/cgs/Documents/Publications/Map-Sheets/MS_052_California_Aggregates_Report_201807.pdf.

County of Riverside. 2015a. "Mineral Resources" Section 4.14 in *County of Riverside Volume 1: Draft Program EIR No. 521*. Part 1 of 2. Accessed May 2023. https://rctlma.org/Portals/14/genplan/general_plan_2015/DEIR%20521/04-14_MineralResources.pdf.

County of Riverside. 2015b. "Multipurpose Open Space Element". Figure OS-6 in Chapter 5 in *Riverside County General Plan*. December 8, 2015. Accessed May 2023. https://planning.rctlma.org/Portals/14/genplan/general_Plan_2017/elements/OCT17/Ch05_MOSE_120815.pdf?ver=2017-10-11-102103-833.

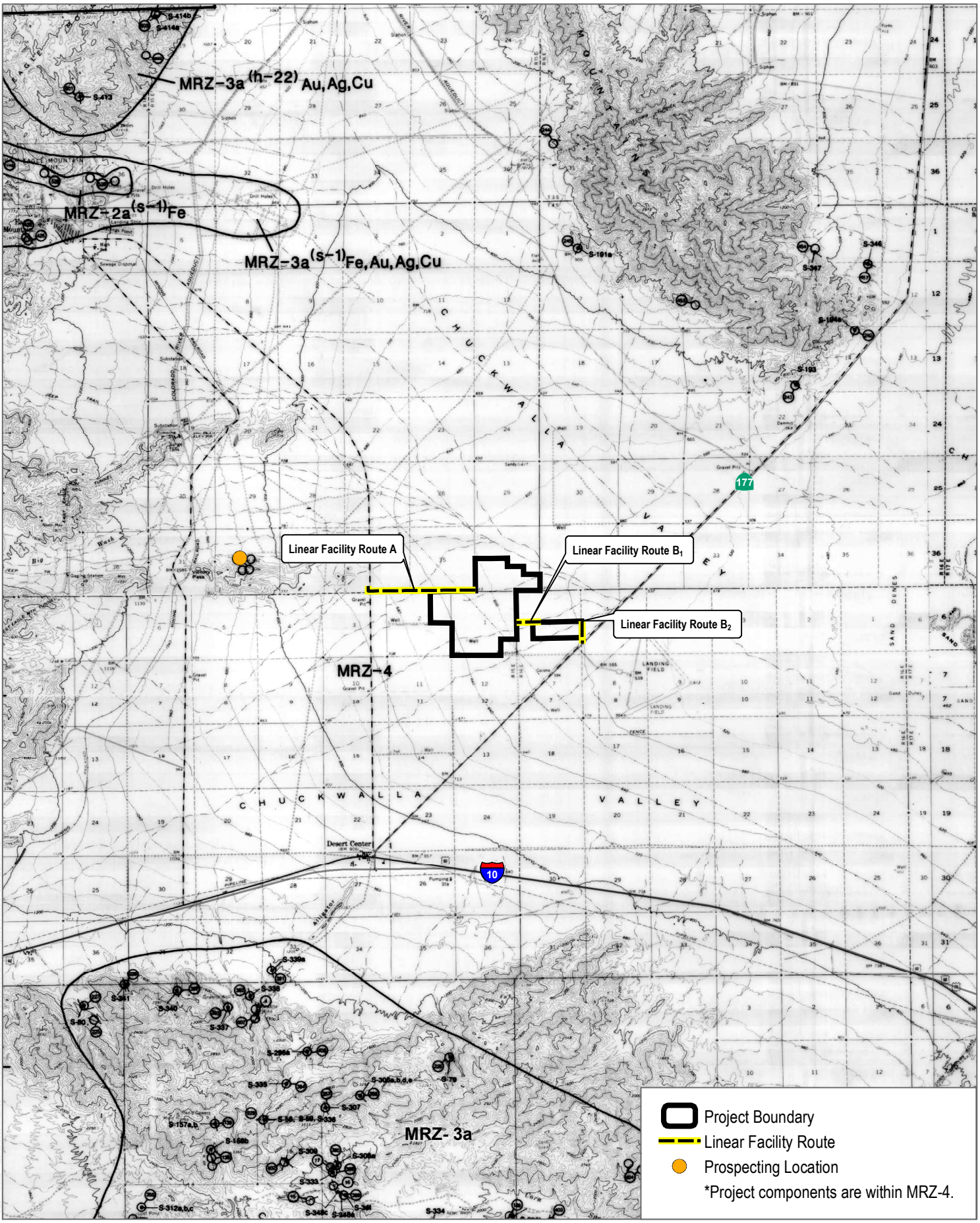
County of Riverside. 2015c. *Desert Center Area Plan.* Revised September 28, 2021. Accessed May 2023. https://planning.rctlma.org/Portals/14/genplan/GPA%202022/Compiled%20DCAP_4-2022%20rev%206-2022.pdf?ver=2022-06-27-145148-463.

DOC (California Department of Conservation). 2021. "DOC Maps: Mines and Mineral Resources" [interactive map]. Accessed May 2023. https://maps.conservation.ca.gov/mineralresources/.

DOC. 2022. "CGS Information Warehouse: Mineral Land Classification" [interactive map]. Accessed May 2023. https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc.

DOC. 2023. "SMARA Statutes and Regulations." Accessed May 2023. https://www.conservation.ca.gov/dmr/lawsandregulations#:~:text=The%20Surface%20Mining%20and%20Reclamation%20Act%20of%201975,mined%20lands%20are%20reclaimed%20to%20a%20usable%20condition.

INTENTIONALLY LEFT BLANK



SOURCE: USGS 1994

DUDEK

0 5,000 10,000 Feet

FIGURE 3.13-1

Mineral Resource Zones

Sapphire Solar Project

INTENTIONALLY LEFT BLANK

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

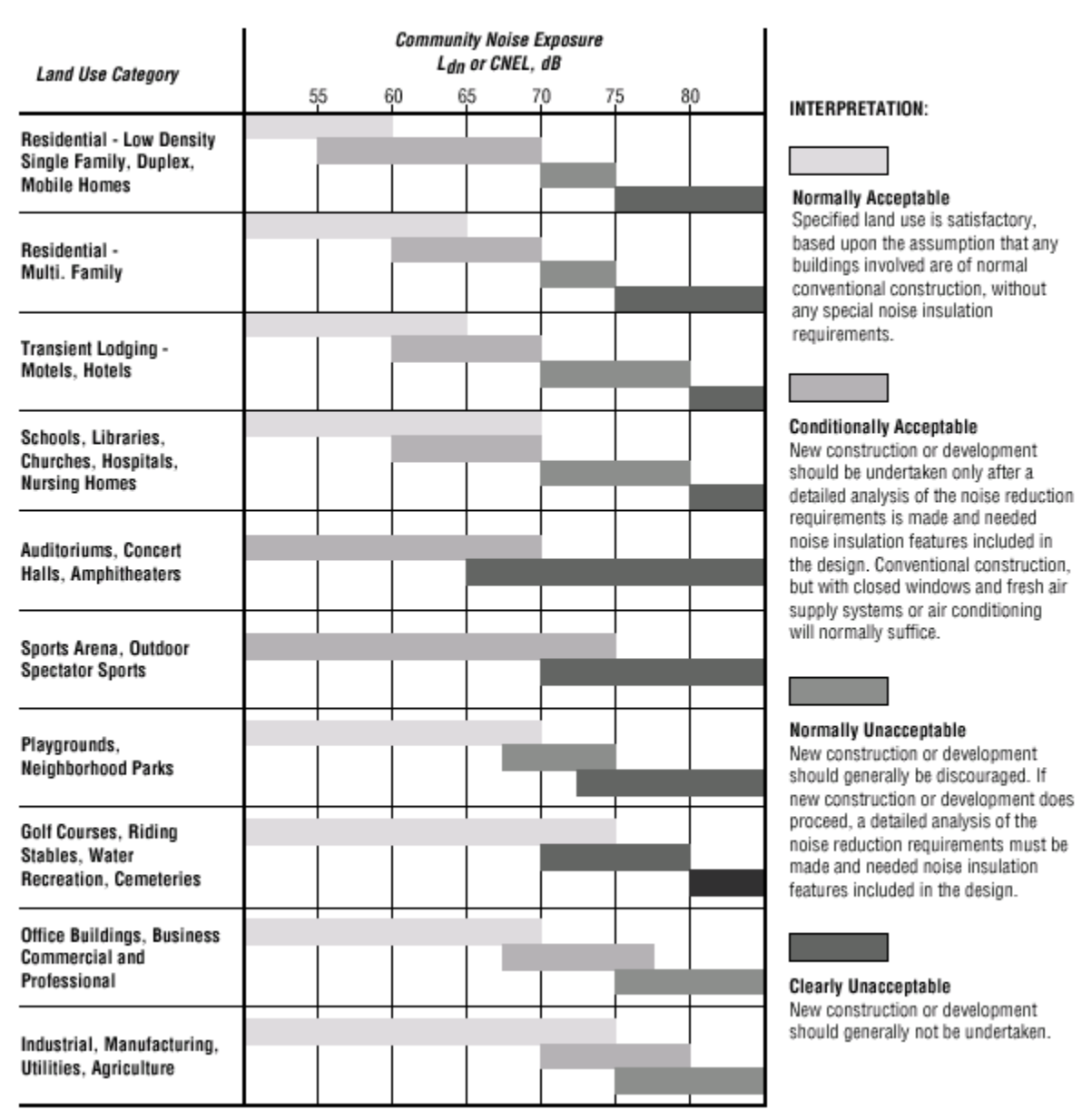
California Noise Control Act of 1973

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

Caltrans (California Department of Transportation). 2020a. *Transportation and Construction Vibration Guidance Manual*. Sacramento, California: California Department of Transportation, Division of Environmental Analysis. April 2020. Accessed August 2023. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.

Caltrans. 2020b. *Technical Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects.* Sacramento, California: California Department of Transportation, Division of Environmental Analysis. April 2020. Accessed August 2023. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/traffic-noise-protocol-april-2020-a11y.pdf.

County of Riverside. 2015. "Noise Element." Chapter 7 in *County of Riverside General Plan*. Revised December 8, 2015. Accessed May 2023. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-general-Plan-2017-elements-OCT17-Ch07-Noise-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.

David Evans and Associates. 2021. *Transportation Impact Analysis, Oberon Renewable Energy Project.* Prepared for IP Oberon, LLC. March 2021.

EPA (U.S. Environmental Protection Agency). 1974. *Information of Levels on Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. EPA 550/9-74-004. March 1974. U.S. Environmental Protection Agency, Office of Noise Abatement and Control.

FHWA (Federal Highway Administration). 2006a. *Construction Noise Handbook.* August 2006. Accessed August 2023. https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/.

FHWA. 2006b. *Roadway Construction Noise Model*. Version 1.1. February 2006. Accessed August 2023. https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/.

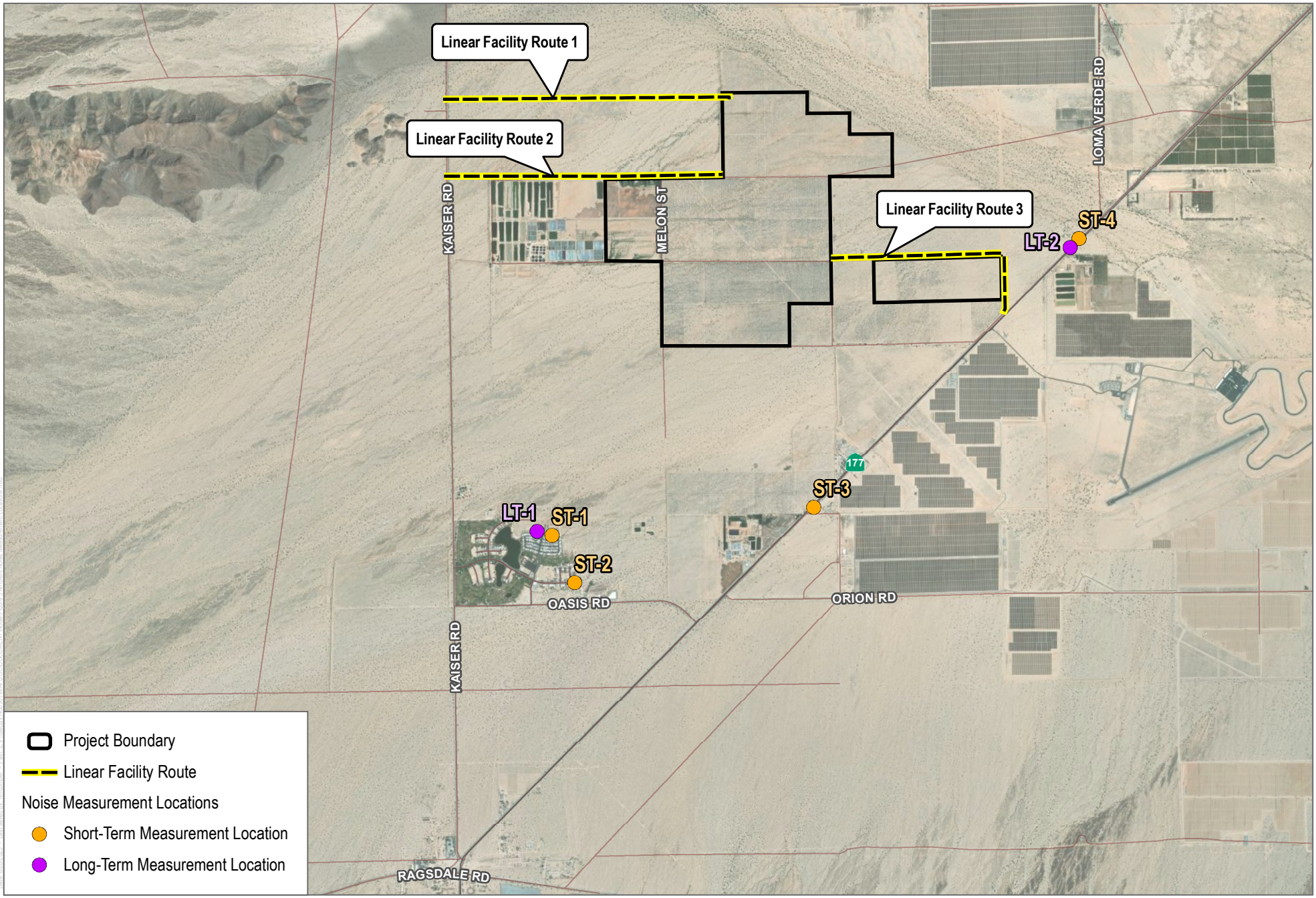
FTA (Federal Transit Administration) 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018. Accessed August 2023. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

NPS (National Park Service). 2021. "Soundscapes." Joshua Tree National Park California. Last updated August 20, 2021. Accessed August 2023. https://www.nps.gov/jotr/learn/nature/soundscapes.htm.

OPR (State of California, Governor's Office of Planning and Research). 2003. *General Plan Guidelines*. October 2003.

Transportation Research Board, National Research Council. 1971. *Highway Noise: A Design Guide for Highway Engineers (1971), National Cooperative Highway Research Program Report 117*.

INTENTIONALLY LEFT BLANK



SOURCE: Esri World Imagery Basemap (accessed 2022); County of Riverside 2022; CALFIRE 2022

DUDEK

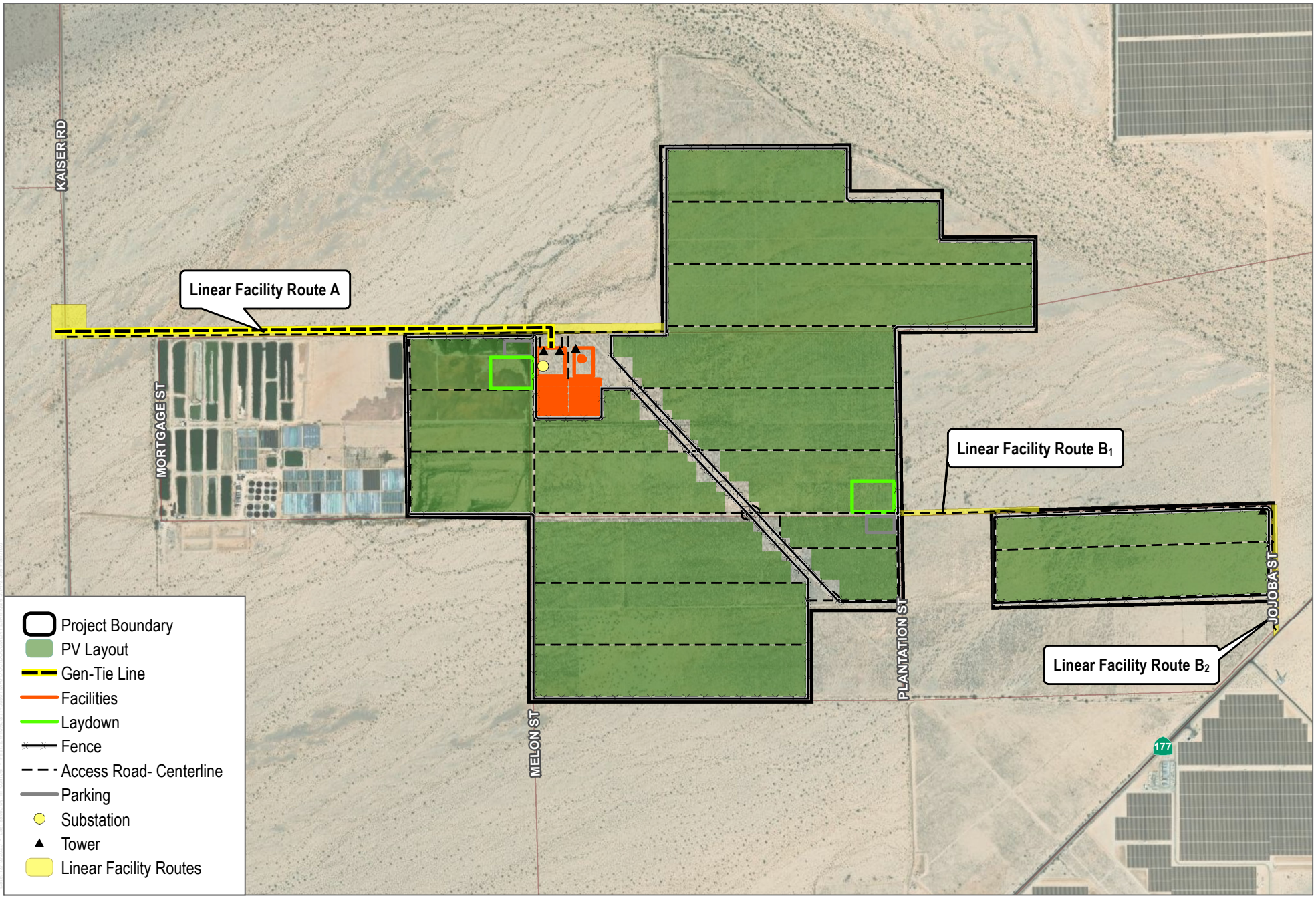
0 2,000 4,000 Feet

FIGURE 3.14-1

Ambient Noise Measurement Locations

Sapphire Solar Project

INTENTIONALLY LEFT BLANK



SOURCE: Esri World Imagery Basemap (accessed 2022); County of Riverside 2022; BLM 2022; EDF 2023

DUDEK

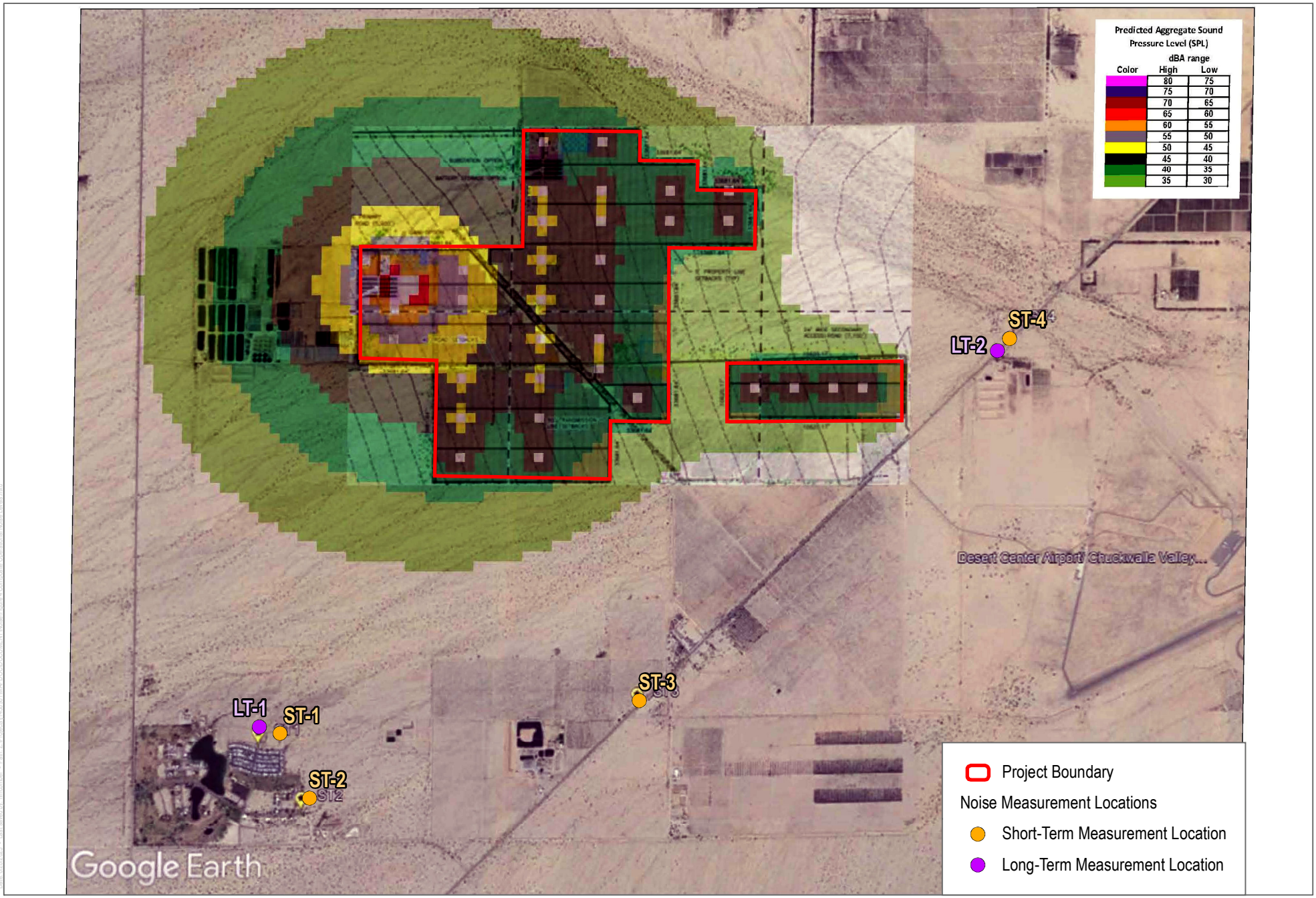
0 900 1,800 Feet

FIGURE 3.14-2

Site Plan

Sapphire Solar Project

INTENTIONALLY LEFT BLANK



SOURCE: Esri World Imagery Basemap (accessed 2022); County of Riverside 2022; CALFIRE 2022

DUDEK

0 1,450 2,900 Feet

FIGURE3.14-3

Composite Operational Noise Levels

Sapphire Solar Project

INTENTIONALLY LEFT BLANK

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

Applied Earthworks. 2018a. *Paleontological Identification Report for the Athos Renewable Energy Project Riverside County, California*.

Applied Earthworks. 2018b. *Paleontological Resource Assessment for the Athos Renewable Energy Project, Riverside County, California*.

Aron, G.L., J. Raum, and C. Richards. 2015. *Final Paleontological Monitoring Report: Desert Sunlight Solar Farm, near the community of Desert Center, Riverside County, California*. Prepared for Bureau of Land Management, Palm Springs–South Coast Field Office, Palm Springs, California. Paleo Solutions, Inc.

Aspen (Aspen Environmental, Inc.). 2020. *Arica and Victory Pass Solar Projects, Paleontology Survey Technical Report*. Prepared for Clearway Energy Group, LLC. September 2020.

BLM (Bureau of Land Management). 2007. "Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands." Instructional Memorandum (IM) No. IM-2008-09. Accessed July 2023. https://www.blm.gov/policy/im-2008-009.

BLM. 2016. "Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands." Instructional Memorandum (IM) No. 2016-124. Accessed July 2023. https://www.blm.gov/policy/im-2016-124.

Chronicle Heritage (previously known as PaleoWest). 2024. Response to Comments from H. Clifford. Dated January 23, 2024.

Clifford, H., and J. Debusk. 2023. *Paleontological Resource Assessment Report for the Sapphire Solar Project, Riverside County, California*. PaleoWest Technical Report No.: 22-477. Prepared for County of Riverside Planning Department and Sapphire Solar, LLC. Arcadia, California: PaleoWest, LLC. April 25, 2023.

CGS (California Geological Survey). 2002. "California Geomorphic Provinces." Note 36. Accessed July 2023. https://www.conservation.ca.gov/cgs/Documents/Publications/CGS-Notes/CGS-Note-36.pdf.

Cohen, K.M., S.C. Finney, P.L. Gibbard, and J.-X. Fan. 2023. "International Chronostratigraphic Chart." International Commission on Stratigraphy. Episodes 36: 199–204. 2013; updated. Accessed July 2023. https://stratigraphy.org/ICSchart/ChronostratChart2021-05.jpg.

County of Riverside. 2015a. "Multipurpose Open Space Element." Chapter 5 in *Riverside County General Plan*. December 8, 2015. Accessed July 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. 2015b. *Environmental Impact Report No. 521, Volume 1, Part 1 of 2: Draft EIR No. 521*. SCH No. 2009041065. Riverside, California: County of Riverside, Riverside County Planning Department. February 2015. Accessed July 2023. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-general-plan-2015-DEIR-521-DEIR-No.-521.pdf.

DeBusk, J., and C. Corsetti. 2009. *Paleontological Resources Assessment for the Palen Solar Power Project, Riverside County, California* [unpublished report]. Pasadena, California: SWCA Environmental Consultants.

Jennings, C.W. 1967. "Geologic Map of California: Salton Sea Sheet" [map]. 1:250,000 scale. Geologic Atlas of California GAM-13. California Division of Mines and Geology.

Roeder, M.A. 2012. *A BLM Paleontological Resources Assessment for the Desert Harvest Solar Project and Gen-Tie Lines, Desert Center, Riverside County, California* [unpublished draft report (September)]. Santa Ana, California: Chambers Group, Inc.

Scherzer, B.A., and J. DeBusk. 2022. *Addendum to the Paleontology Survey Technical Report for the Arica and Victory Pass Solar Projects*. Prepared for the BLM and Panorama Environmental.

SVP (Society of Vertebrate Paleontology). 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*. Accessed July 2023. https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf.

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%
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

Table 3.16-2. Population Estimates, Projections, and Average Annual Growth Rates[5]

	Riverside County	San Bernardino County
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

County of Riverside. 2007. "Ordinance 847 (as Amended through 847.1), An Ordinance of the County of Riverside Amending Ordinance No. 847 Regulating Noise." Amended: 847.1 Item 3.4 of June 19, 2007. Effective July 19, 2007. Accessed April 2023. https://rivcocob.org/sites/g/files/aldnop311/files/migrated/ords-800-847.pdf.

County of Riverside. 2021. *Riverside County 2021–2029 Housing Element*. Adopted September 28, 2021. Accessed May 2023. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-2021-elements-Ch08-Housing-9.28.21.pdf.

County of Riverside. 2024. "About the County." Accessed February 2024. https://rivco.org/about-county#:~:text=Riverside%20is%20the%20fourth%20largest,home%20to%202.4%20million%20residents.

DOF (Department of Finance). 2021. "P2A: Total Estimated and Projected Population for California and Counties: July 1, 2010 to 2060." Accessed March 2023. https://dof.ca.gov/Forecasting/Demographics/projections/.

DOF. 2022. "E-5 Population and Housing Estimates for Cities, Counties and the State, January 2021-2022, with 2020 Benchmark." Accessed May 2023. https://dof.ca.gov/forecasting/demographics/estimates/estimates-e5-2010-2021/https://dof.ca.gov/Forecasting/Demographics/projections/.

EDD (Employment Development Department) 2023. "California's Unemployment Rate Remains Unchanged For March 2023." Accessed April 2023. https://edd.ca.gov/en/about_edd/news_releases_and_announcements/unemployment-March-2023/.

U.S. Census Bureau. 2021a. "Selected Housing Characteristics, Desert Center CDP, California." Accessed March 2023. https://data.census.gov/table?q=Desert+Center+CDP,+California+selected+housing+characteristics&tid=ACSDP5Y2021.DP04.

U.S. Census Bureau. 2021b. "Selected Housing Characteristics, San Bernardino County, California." Accessed May 2023. https://data.census.gov/table?t=Homeownership+Rate&g=050XX00US06071&tid=ACSDP5Y2021.DP04.

U.S. Census Bureau. 2021c. "Demographic Characteristics for Occupied Housing Units, Desert Center CDP, California." Accessed March 2023. https://data.census.gov/table?q=Desert+Center+CDP,+California.

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

BLM (Bureau of Land Management). 2020. "Fire Prevention Order CA910-2020-001, California Year-round Fire Restrictions." April 28, 2020. Accessed March 2023. https://www.blm.gov/sites/blm.gov/files/BLM0021206_CA%20Statewide%20Fire%20Order_final_508.pdf.

BLM. 2023. "Fire Restrictions." Accessed May 2023. https://www.blm.gov/programs/fire/fire-restrictions.

BLM. 2024. "What We Do." Accessed February 2024. https://www.blm.gov/programs/law-enforcement/what-we-do.

CAL FIRE (California Department of Forestry and Fire Protection). 2018. *2018 Strategic Fire Plan for California*. August 22, 2018. Accessed March 2023. https://osfm.fire.ca.gov/media/5590/2018-strategic-fire-plan-approved-08_22_18.pdf.

CAL FIRE. 2023. "Fire Hazard Severity Zones (FHSZ)." Accessed March 2023. https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildfire-preparedness/fire-hazard-severity-zones/.

CAL FIRE/RCFD (California Department of Forestry and Fire Protection and Riverside County Fire Department). 2022. *Unit Strategic Fire Plan*. May 2022. Accessed March 2023. https://osfm.fire.ca.gov/media/zhdccpcy/2022-riverside-county-unit-fire-plan.pdf.

California Fire Code, Title 24, Part 9. 2022. Accessed March 2023. https://codes.iccsafe.org/content/CAFC2022P1.

Captain Casey, E. 2023. Riverside County Fire Department Station 49 - Lake Tamarisk Response Times and Details. Telephone conversation between Captain E. Casey and C. Ohanesian (Dudek). May 23, 2023.

CDE (California Department of Education). 2022. "California School Directory, Desert Center Unified." Last updated March 23, 2022. Accessed March 2023. https://www.cde.ca.gov/schooldirectory/details?cdscode=33670410000000.

CHP (California Highway Patrol. 2023. "(660) Blythe." California Highway Patrol, Find an Office, Border Division Offices. Accessed March 2023. https://www.chp.ca.gov/Find-an-Office/Border-Division/Offices/(660)-Blythe.

County of Riverside. 2015. *County of Riverside Volume 1: Draft Program EIR No. 521*. Part 1 of 2. Accessed May 2023. https://planning.rctlma.org/Portals/14/genplan/general_plan_2015/DEIR%20521/DEIR%20No.%20521.pdf.

County of Riverside. 2021a. "Safety Element." Chapter 6 in *Riverside County General Plan*. September 28, 2021. Accessed May 2023. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-2021-elements-Ch06-Safety-092821.pdf.

County of Riverside. 2021b. "Land Use Element." Chapter 3 in *Riverside County General Plan*. September 28, 2021. Accessed May 2023. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-Ch03-Land-20Use-FINAL-209-28-21.pdf.

County of Riverside. 2021c. *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.

Desert Care Network. 2023. "Services, Our Medical Services and Specialties." Accessed March 2023. https://www.desertcarenetwork.com/services.

Moulton, M. 2023. Confirmation of Riverside County Sheriff's Department Colorado River Station. Email conversation between M. Moulton (Riverside County Sheriff's Department) and C. Ohanesian (Dudek). July 7, 2023.

Palo Verde Hospital. 2023. "About Us." Accessed March 2023. https://www.paloverdehospital.org/54/About-Us.

RCFD (Riverside County Fire Department). 2009. *Riverside County Fire Department Strategic Plan 2009-2029*. November 2009. Accessed May 2023. https://www.rvcfire.org/pdf/strategic-planning/StrategicPlan2009.pdf?v=7607.

RCFD. 2021. "Riverside County Fire Stations." Accessed March 2023. https://www.rvcfire.org/resources/fire-stations.

RCRPOSD (Riverside County Regional Park and Open-Space District). 2022. "Discover Open-Space Areas and Reserves." Accessed March 2023. https://www.rivcoparks.org/open-space-areas-and-reserves.

Riverside County Fire Department Office of the Fire Marshal. 2020. "Technical Policy 15-002 SEGS Fire Apparatus Access Roads." Effective Date July 28, 2015. Revised Date January 7, 2022. Accessed March 2023. https://rvcfire.org/pdf/fire-marshal/technical-policies/TP15-002-SEGSAccessRoadways-01072020.pdf.

Riverside County Library System. 2023. "Locations" [interactive map]. Accessed May 2023. https://rivlib.info/locations.

Riverside County Sheriff-Coroner. 2023. "Riverside Sherriff Stations" [interactive map]. Accessed May 2023. https://www.riversidesheriff.org/168/Patrol-Stations.

U.S. Department of Interior. 2023. "Office of Law Enforcement and Security, Bureau of Land Management Law Enforcement." Accessed March 2023. https://www.doi.gov/oles/bureau-land-management-law-enforcement.

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

BLM (U.S. Bureau of Land Management). n.d. "Visitor Use Estimates." Accessed July 2022. https://www.ntc.blm.gov/krc/system/files?file=legacy/uploads/24347/Visitor-Use-Estimate.pdf.

BLM. 1999. *The California Desert Conservation Area Plan 1980 as Amended*. March 1999. Accessed May 2023. https://eplanning.blm.gov/public_projects/lup/66949/82080/96344/CDCA_Plan.pdf.

BLM. 2002. *Northern and Eastern Colorado Desert Coordinated Management Plan*. July 2002. Accessed June 2023. https://eplanning.blm.gov/eplanning-ui/project/67044/570.

BLM. 2005. *H-1601-1 Land Use Planning Handbook*. March 11, 2005. Accessed April 2023. https://www.blm.gov/sites/blm.gov/files/uploads/Media_Library_BLM_Policy_Handbook_h1601-1.pdf.

BLM. 2012. *H-8342 Travel and Transportation Handbook*. March 16, 2012. Accessed April 2023. https://www.blm.gov/sites/blm.gov/files/uploads/Media_Library_BLM_Policy_H-8342.pdfhttps://www.blm.gov/sites/blm.gov/files/uploads/Media_Library_BLM_Policy_Handbook_h1601-1.pdf.

BLM. 2016. *The Federal Land Policy and Management Act of 1976 as Amended*. September 2016. Accessed May 2023. https://www.blm.gov/sites/blm.gov/files/AboutUs_LawsandRegs_FLPMA.pdf

BLM. 2017. "Corn Springs Campground Information and Interpretive Trail Guide." May 10, 2017. Accessed April 2023. https://www.blm.gov/sites/default/files/documents/files/media-public-room-california-corn-springs-campground-trail-guide.pdf.

BLM. 2018. *Final Supplemental Environmental Impact Statement/Environmental Impact Report/Land Use Plan Amendment for the Palen Solar Project*. July 2018. Accessed May 2023. https://eplanning.blm.gov/public_projects/nepa/68122/156688/191762/Palen_Solar_Project_Final_EIS-EIR-LUPA_Main_Text_WEB.pdf.

BLM. 2020. "Visits and Visitor Days by RMA; Fiscal Year Range 2015-2020." BLM Recreation Management Information System.

BLM. 2022. *Public Land Statistics 2021*. Volume 206. June 2022. Accessed April 2023. https://www.blm.gov/sites/default/files/docs/2022-07/Public_Land_Statistics_2021_508.pdf.

Chuckwalla Valley Raceway. 2023. "GP Racetrack Information." Accessed April 2023. https://chuckwalla.com/track-info-rental.

County of Riverside. 2015. "Multipurpose Open Space Element." Chapter 5 in *Riverside County General Plan*. December 8, 2015. Accessed May 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. 2021a. "Land Use Element." Chapter 3 in *Riverside County General Plan*. September 28, 2021. Accessed May 2023. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-Ch03-Land-20Use-FINAL-209-28-21.pdf.

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

Desert Peaks. 2020. *Desert Peaks Section Peaks List and General Information*. 31st Edition, May 2020, 95 Peaks. Accessed June 2023. https://desertpeaks.org/wp-content/uploads/2020/06/DPSList-3.pdf.

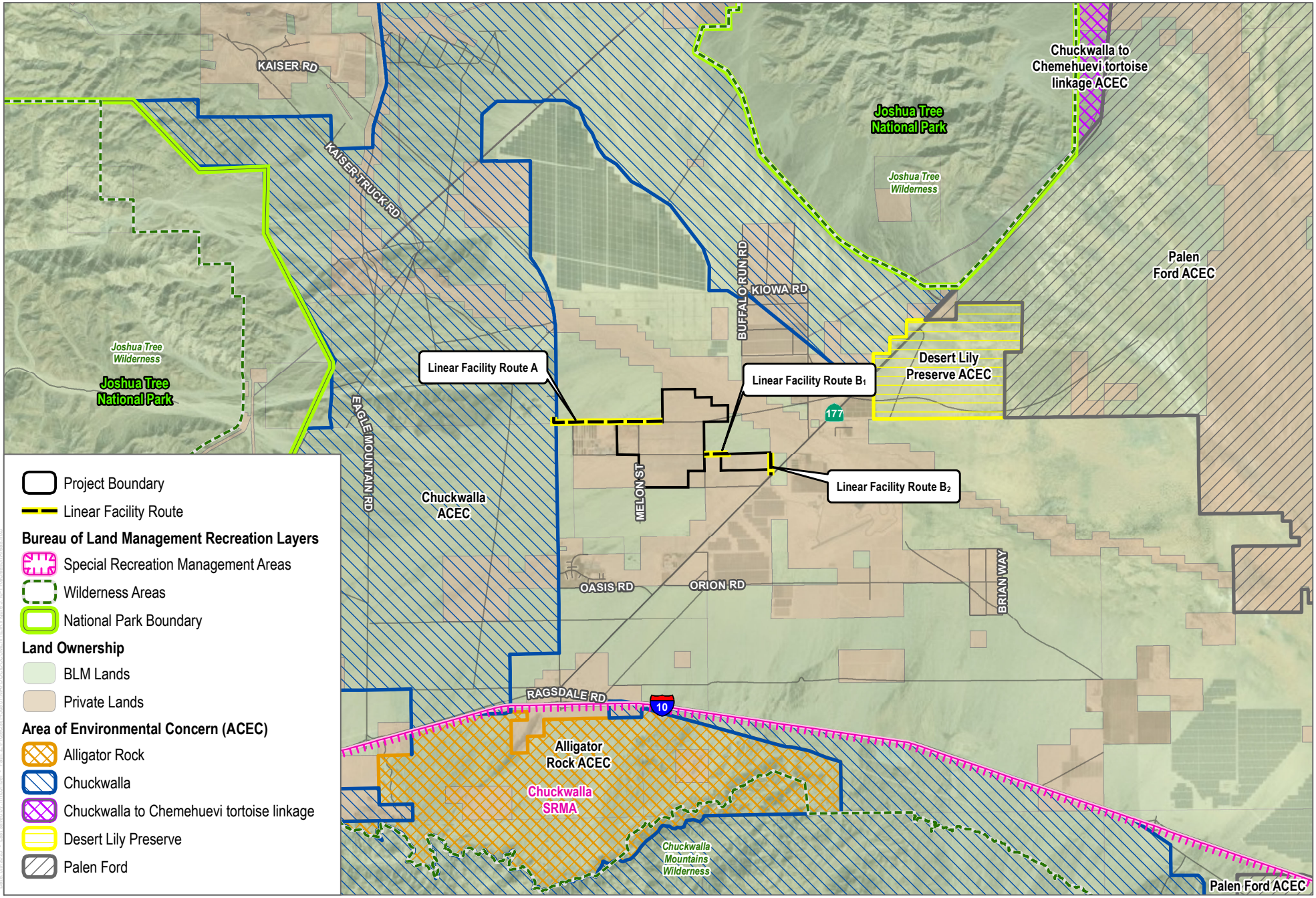
DRECP (Desert Renewable Energy Conservation Plan Gateway). 2016. "California Desert Conservation Area (CDCA) Plan Boundary." DRECP Gateway. Accessed June 2023. https://drecp.databasin.org/maps/new/#datasets=c9c8208ef09e48249c9cf989b0aa2e1dv.

NPS (National Park Service). 2022. "Joshua Tree National Park California, Park Statistics." Accessed April 2023. https://www.nps.gov/jotr/learn/management/statistics.htm.

NPS. 2023. "Complete Text of the Wilderness Act [Teaching Version]." Public Law 88-577 (16 U.S.C. 1131-1136) 88th Congress, Second Session September 3, 1964 (As amended). Accessed April 2023. https://www.nps.gov/subjects/wilderness/upload/W-Act_508.pdf.

Wilderness Connect. 2023. "Joshua Tree Wilderness." Accessed June 2023. https://wilderness.net/visit-wilderness/?ID=279.

INTENTIONALLY LEFT BLANK



SOURCE: Esri World Imagery Basemap (accessed 2022); County of Riverside 2022; CALFIRE 2022; BLM 2023

DUDEK

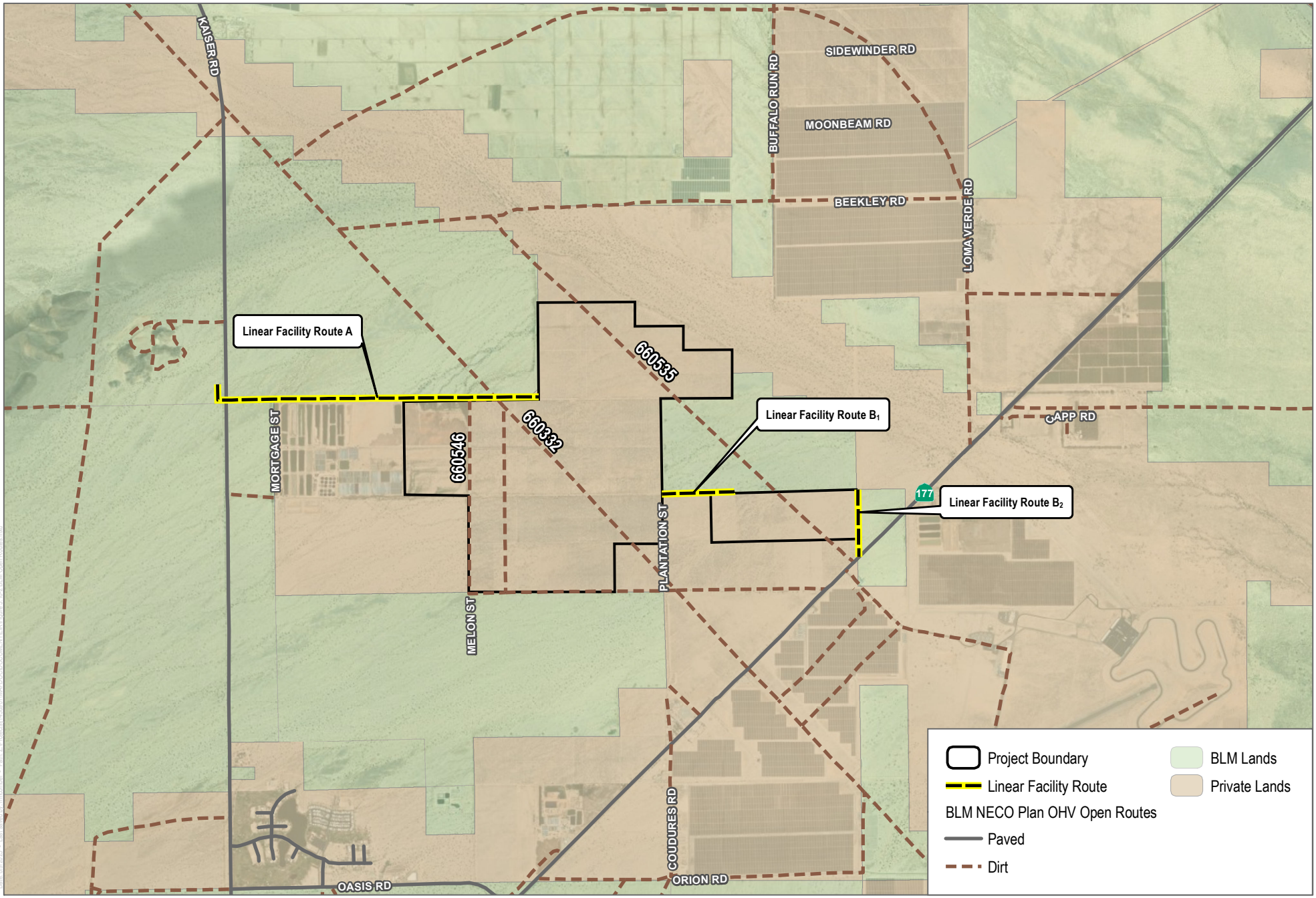
0 0.75 1.5 Miles

FIGURE 3.18-1

Recreation Areas

Sapphire Solar Project

INTENTIONALLY LEFT BLANK



SOURCE: Esri World Imagery Basemap (accessed 2022); County of Riverside 2022; CALFIRE 2022; BLM 2023

DUDEK

0 1,700 3,400 Feet

FIGURE 3.18-2

BLM Open Routes

Sapphire Solar Project

INTENTIONALLY LEFT BLANK

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

Caltrans (California Department of Transportation). 2020a. *Vehicle Miles Traveled-Focused Transportation Impact Study Guide*. May 20, 2020. Accessed March 2023. https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-05-20-approved-vmt-focused-tisg-a11y.pdf.

Caltrans. 2020b. "Traffic Safety Bulletin 20-02-R1: Interim Local Development and Intergovernmental Review Safety Review Practitioners Guidance." December 18, 2020. Accessed March 2023. https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-12-22-updated-interim-ldigr-safety-review-guidance-a11y.pdf.

Caltrans. 2020c. "Traffic Census Program." Accessed March 2023. https://dot.ca.gov/programs/traffic-operations/census.

County of Riverside. 2019. *Final Environmental Impact Report for IP Athos LLC's Renewable Energy Project*. SCH No. 2018051021. May 2019. Accessed February 2024. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-Postings-Athos-FinalEIR-IPAthosFinalEIR.pdf.

County of Riverside. 2020a. "Circulation Element." Chapter 4 in *Riverside County General Plan*. Revised July 7, 2020. Accessed August 2023. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-2019-elements-Ch04-Circulation-072720v2.pdf.

County of Riverside. 2020b. *Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled*. December 2020. Accessed August 2023. https://trans.rctlma.org/sites/g/files/aldnop401/files/migrated/Portals-7-2020-12-15-20--20Transportation-20Analysis-20Guidelines.pdf.

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

County of Riverside. 2024. *Draft Environmental Impact Report for IP Easley LLC's Easley Renewable Energy Project*. SCH No. 2022-11-0240. January 2024. Accessed February 2024. https://files.ceqanet.opr.ca.gov/283085-2/attachment/OSofH50fElD2wiDTCPh8823xy7skqRVceM0rrp7jMvva15ydKSjrF-F7U1xyqtpAJb3qzYcsEY8UwqbQ0.

OPR (Governor's Office of Planning and Research). 2018a. *2018 California Environmental Quality Act (CEQA) Statute & Guidelines*. Accessed August 2023. https://opr.ca.gov/ceqa/guidelines/updates.html.

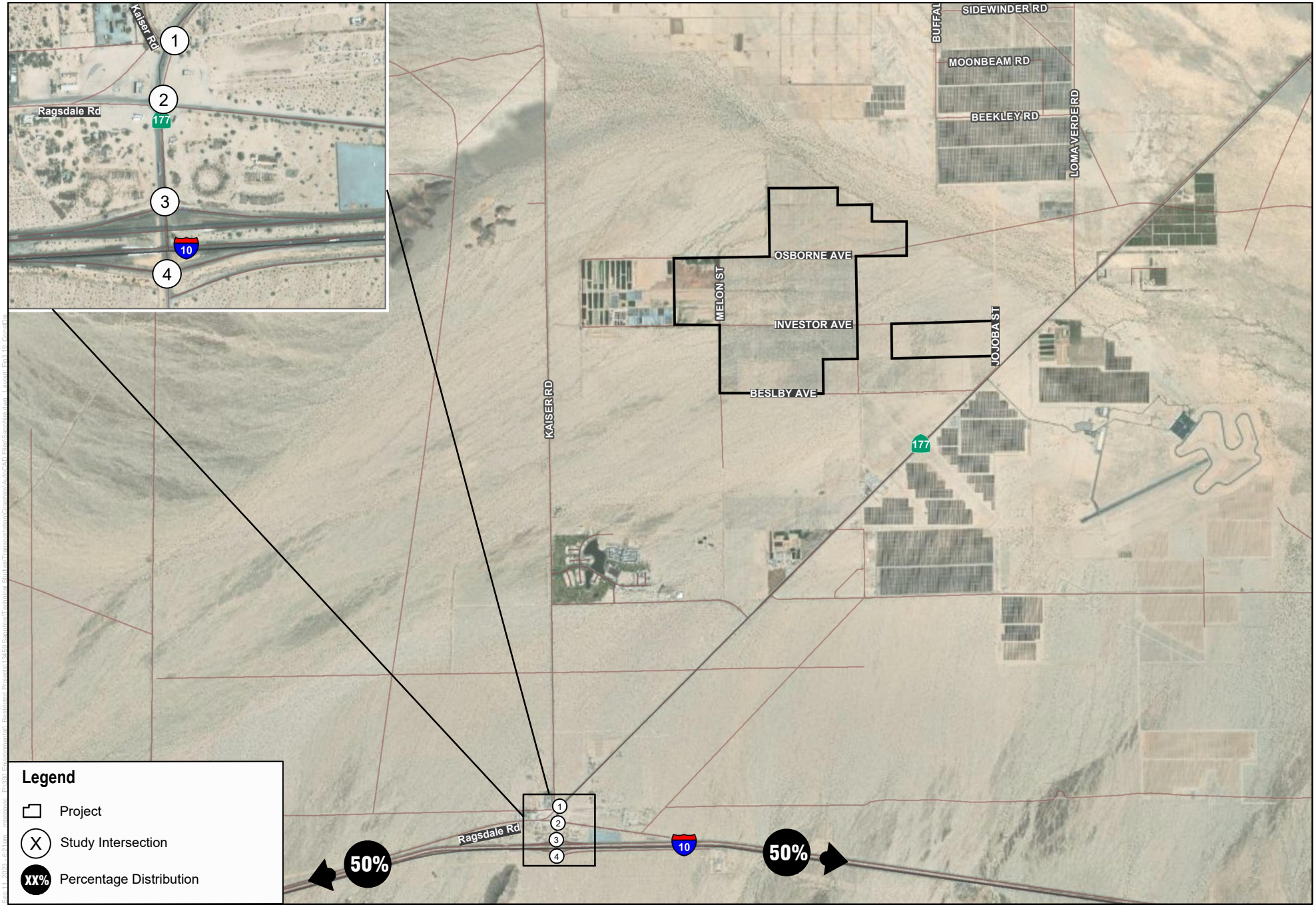
OPR. 2018b. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018. Accessed March 2023. http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

PVVTA (Palo Verde Valley Transit Agency). 2023. "Route 6 Wellness Express." Accessed March 2023. https://pvvta.com/routes/wellness_express/.

RCTC (Riverside County Transportation Commission). 2019. *Riverside County Long Range Transportation Study*. December 2019. Accessed February 2024. https://www.rctc.org/wp-content/uploads/2019/12/RCTC-Draft-LRTS-120119-GV22.pdf.

SCAG (Southern California Association of Governments). 2020. *Connect SoCal, The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy*. Adopted September 2020. Accessed August 2023. https://scag.ca.gov/read-plan-adopted-final-connect-socal-2020.

INTENTIONALLY LEFT BLANK



SOURCE: Esri World Imagery Basemap 2022; County of Riverside 2022

DUDEK

Not to Scale

FIGURE 3.19-1

Site Access and Transportation Study Area

Sapphire Solar Project

INTENTIONALLY LEFT BLANK

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 much broader Pacific to Rio Grande Trails Landscape (PRGTL) which itself incorporates archaeological manifestations of the Halchidoma (or Coco-Maricopa) Trail (P-33-000053/CA-RIV-0053T). 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.

* A “Native American Monitor" is an individual who is presented as a representative of a tribal government for one of the culturally affiliated tribes for the Sapphire Solar Project and who has received specialized training approved by that tribal government to serve as a monitor.”

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 and Treatment Plan~~Program~~ (CRMTP). ~~A Cultural Resource Monitoring Plan~~The CRMTP shall be developed ~~that~~ to 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 Project Archaeologist ~~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. The training shall be prepared in consultation with culturally affiliated Native Americans to incorporate the tribal knowledge and perspectives from these Native American groups into the presentation. ~~T~~Tribal representatives will also be given the opportunity to participate in the WEAP training. The ~~CRS~~ Project Archaeologist 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 Project Archaeologist~~CRS~~ or supervisory cultural resource field staff, and that redirection of work would be determined by the construction supervisor and the Project Archaeologist~~CRS~~.
- Instruction that the Project Archaeologist~~CRS~~, alternate Project Archaeologist~~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 Project Archaeologist.~~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 Project Archaeologist ~~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 Project Archaeologist~~CRS~~ shall manage all monitoring, mitigation, curation, and reporting activities under the CRMTP. The Applicant shall ensure that the Project Archaeologist~~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. Any additional archaeological monitors will meet the qualifications of a bachelor's degree in anthropology/archaeology or completion of an archaeological field school and two or more years of archaeological project experience. Daily monitoring forms will be completed by the archaeological monitor(s) and the Project Archaeologist~~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~~ Project ~~archaeologist~~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 (Project 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 Transportation and Land Management Agency's (TLMAs) ~~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~~CRMTP.

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.

INTENTIONALLY LEFT BLANK

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.

CalRecycle. 2023b. "SWIS Facility/Site Summary, Desert Center Sanitary Landfill (33-AA-0016)." Solid Waste Information System (SWIS). Accessed July 13, 2023. https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/2377.

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.*

3.22.5 References

BLM (Bureau of Land Management). 2023. "About the BLM Fire Program." Accessed August 2023. https://www.blm.gov/programs/public-safety-and-fire/fire/about-fire.

CAL FIRE (California Fire and Forestry Protection). 2007. "Fire and Resource Assessment Program (FRAP), Fire Hazard Severity Zones in SRA." Adopted by California Department of Forestry and Fire Protection on November 7, 2007.

CAL FIRE. 2021. "Fire and Resource Assessment Program, GIS Data, Fire Perimeters." Accessed August 2023. https://www.fire.ca.gov/what-we-do/fire-resource-assessment-program/fire-perimeters.

CAL FIRE. 2023. "Law Enforcement and Civil Cost Recovery." Accessed August 2023. https://www.fire.ca.gov/what-we-do/fire-protection/law-enforcement-and-civil-cost-recovery.

Cal OES (California Office of Emergency Services). 2010. "State Fire and Rescue Resource Mutual Aid Guidelines." Letter from D. Walters, Director of CAL FIRE, and M. Bettenhausen, Secretary of Cal OES. November 1, 2010. Accessed August 2023. https://www.caloes.ca.gov/wp-content/uploads/Fire-Rescue/Documents/CalOES-State-Fire-and-Rescue-Resource-Mutual-Aid-Guidelines-20101101.pdf.

CARB (California Air Resources Board), et al. 2021. *Wildfire Smoke: A Guide for Public Health Officials*. September 2021. Accessed August 2023. https://www.airnow.gov/sites/default/files/2021-09/wildfire-smoke-guide_0.pdf.

County of Riverside. 2020a. "Circulation Element." Chapter 4 in *County of Riverside General Plan*. Revised July 7, 2020. Accessed August 2023. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-2019-elements-Ch04-Circulation-072720v2.pdf.

County of Riverside. 2020b. "Fire Stations." Accessed August 2023. https://www.rvcfire.org/resources/fire-stations.

County of Riverside. 2021a. "Safety Element." Chapter 6 in *County of Riverside General Plan*. Revised September 28, 2021. Accessed August 2023. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-2021-elements-Ch06-Safety-092821.pdf.

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

CPUC (California Public Utilities Commission). 2023. "CPUC High Fire Threat District (HFTD)" [online mapping application]. Accessed August 2023. https://capuc.maps.arcgis.com/apps/webappviewer/index.html?id=5bdb921d747a46929d9f00dbdb6d0fa2.

EPA (U.S. Environmental Protection Agency). 2016. "What Climate Change Means for California." EPA-430-F-16-007. August 2016. Accessed August 2023. https://www.epa.gov/sites/production/files/2016-09/documents/climate-change-ca.pdf.

Forests and Rangelands. 2023. "Previous Wildland Fire Management Initiatives." Accessed August 2023. https://www.forestsandrangelands.gov/resources/overview/.

International Code Council. 2017. *2018 International Fire Code*. Accessed August 2023. https://codes.iccsafe.org/content/IFC2018.

Moench, R., and J. Fusaro. 2012. "Soil Erosion Control after Wildfire." Fact Sheet No. 6.308. Colorado State University. Accessed August 2023. https://csfs.colostate.edu/wp-content/uploads/2018/07/06308.pdf.

NERC (North American Electric Reliability Corporation). 2023. "All Reliability Standards." Accessed August 2023. https://www.nerc.com/pa/Stand/Pages/ReliabilityStandards.aspx.

NFPA (National Fire Protection Association). 2023. *NFPA 855, Standard for the installation of Stationary Energy Storage Systems*. Accessed August 2023. https://catalog.nfpa.org/NFPA-855-Standard-for-the-Installation-of-Stationary-Energy-Storage-Systems-P20704.aspx.

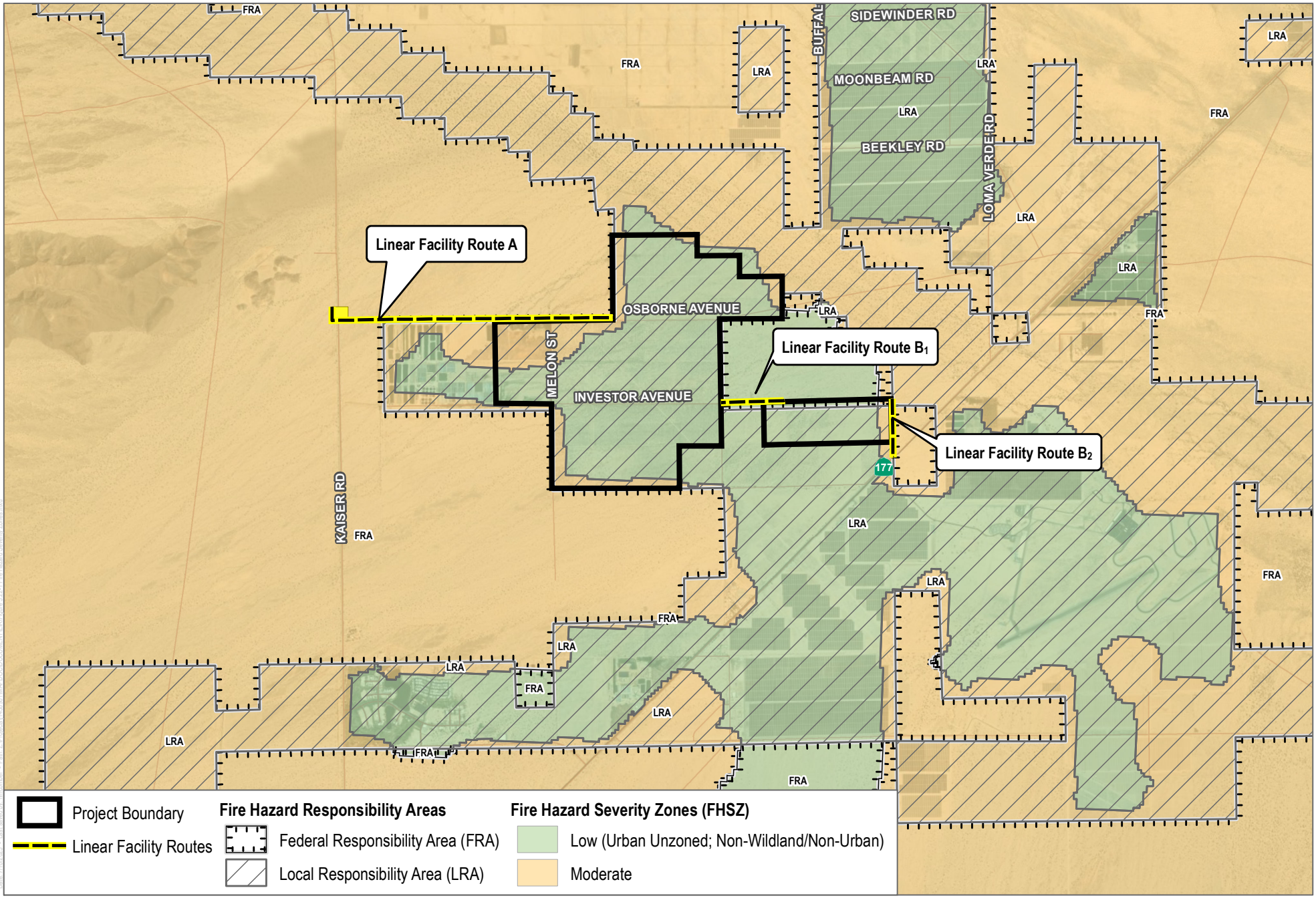
RCFD (Riverside County Fire Department). 2020. "SEGS Fire Apparatus Access Roads." Technical Policy TP 15-002. Revised January 7, 2020. Accessed August 2023. https://www.rvcfire.org/pdf/fire-marshal/technical-policies/TP15-002-SEGSAccessRoadways-01072020.pdf?v=7717.

Syphard, A.D., and J.E. Keeley. 2016. "Historical Reconstructions of California Wildfires Vary by Data Source." *International Journal of Wildland Fire* 25(12): 1221–1227.

TUV Rheinland Energie und Umwelt GmbH. 2018. *Assessing Fire Risks in Photovoltaic Systems and Developing Safety Concepts for Risk Minimization*. (translation from German funded by U.S. Department of Energy). Accessed August 2023. https://www.energy.gov/eere/solar/articles/assessing-fire-risks-photovoltaic-systems-and-developing-safety-concepts-risk.

U.S. Climate Data. 2023. "Climate Desert Center – California." Accessed August 2023. https://www.usclimatedata.com/climate/desert-center/california/united-states/usca1622.

Weather Atlas. 2023. "Average Wind Speed Desert Center, CA." Accessed August 2023. https://www.weather-atlas.com/en/california-usa/desert-center-climate.



SOURCE: Esri World Imagery Basemap (accessed 2022); County of Riverside 2022; CALFIRE 2023

DUDEK

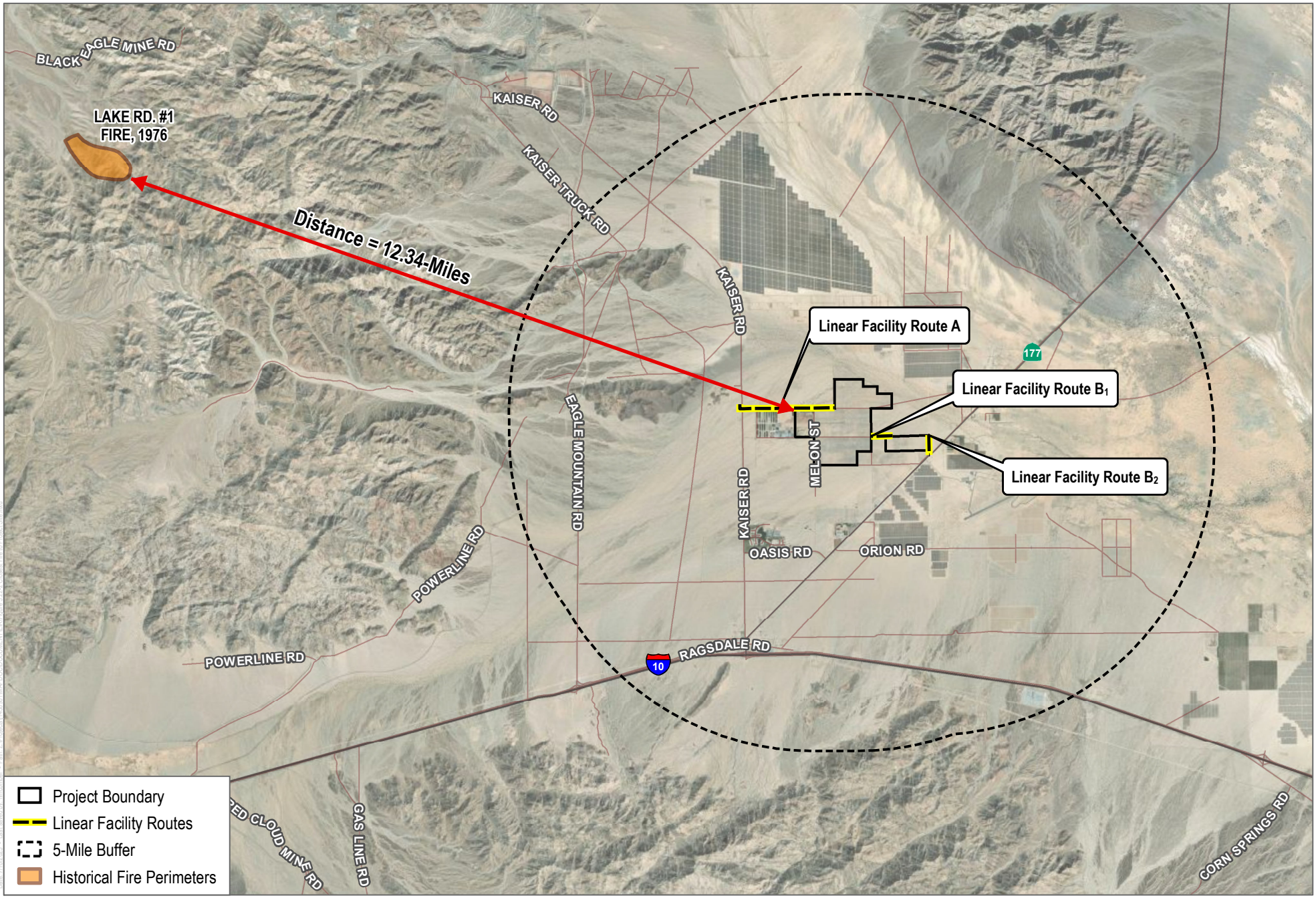
0 2,000 4,000 Feet

FIGURE 3.22-1

Fire Hazard Severity Zones

Sapphire Solar Project

INTENTIONALLY LEFT BLANK



SOURCE: Esri World Imagery Basemap (accessed 2022); County of Riverside 2022; CALFIRE 2023

DUDEK

0 1.5 3 Miles

FIGURE 3.22-2

Closest Fire to Project Site

Sapphire Solar Project

INTENTIONALLY LEFT BLANK

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.

Tribal Cultural Resources. Visual impacts to the Prehistoric Trails Network Cultural Landscape/Historic District (PNTCL) would remain the same. No specific physical archaeological resources qualifying as Tribal Cultural Resources were identified within the Project's Cultural Resources Study Area.

The Reduced Footprint Alternative would reduce the potential for inadvertent discovery of Tribal Cultural Resources 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 tribal cultural resources would be only slightly less than the Project. 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

[4] Of the 41 acres of disturbance area associated with the Project's LFRs, approximately 34.5 acres would be permanent disturbance.

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 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 adverse impacts 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.

Tribal Cultural Resources. Visual impacts to the PNTCL would remain the same. However, ground disturbing activities associated with the greater length of the Alternative 3 gen-tie route could reveal

cultural resources that could be manifestations of the PTNCL. Therefore, there is a potential for impacts to T~~t~~ribal C~~c~~ultural R~~r~~esources to be greater than those of the Project.

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.

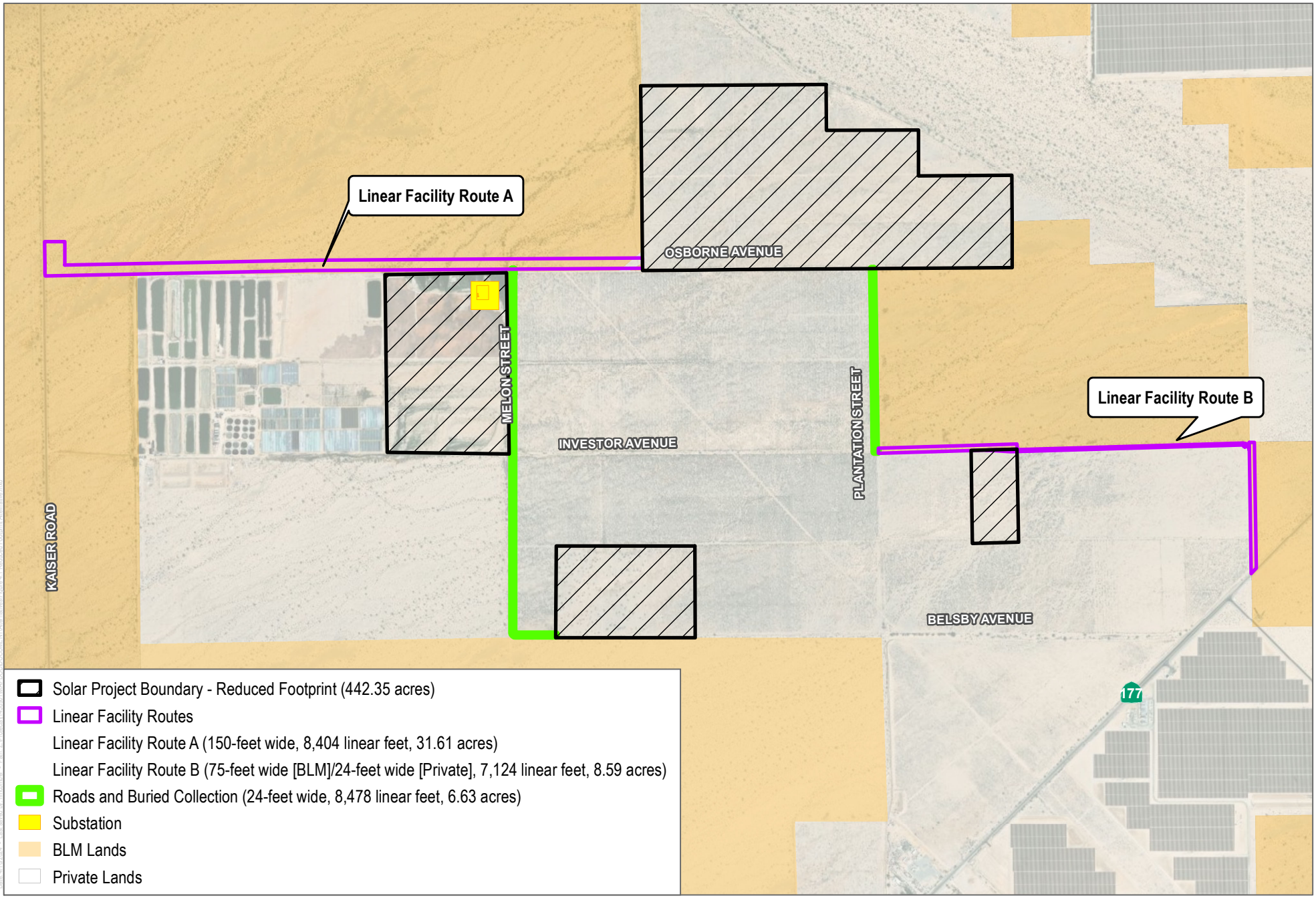
4.4.2 Alternative Renewable Energy Technologies

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.

INTENTIONALLY LEFT BLANK



SOURCE: Esri World Imagery Basemap (accessed 2022); County of Riverside 2022; BLM 2022

DUDEK

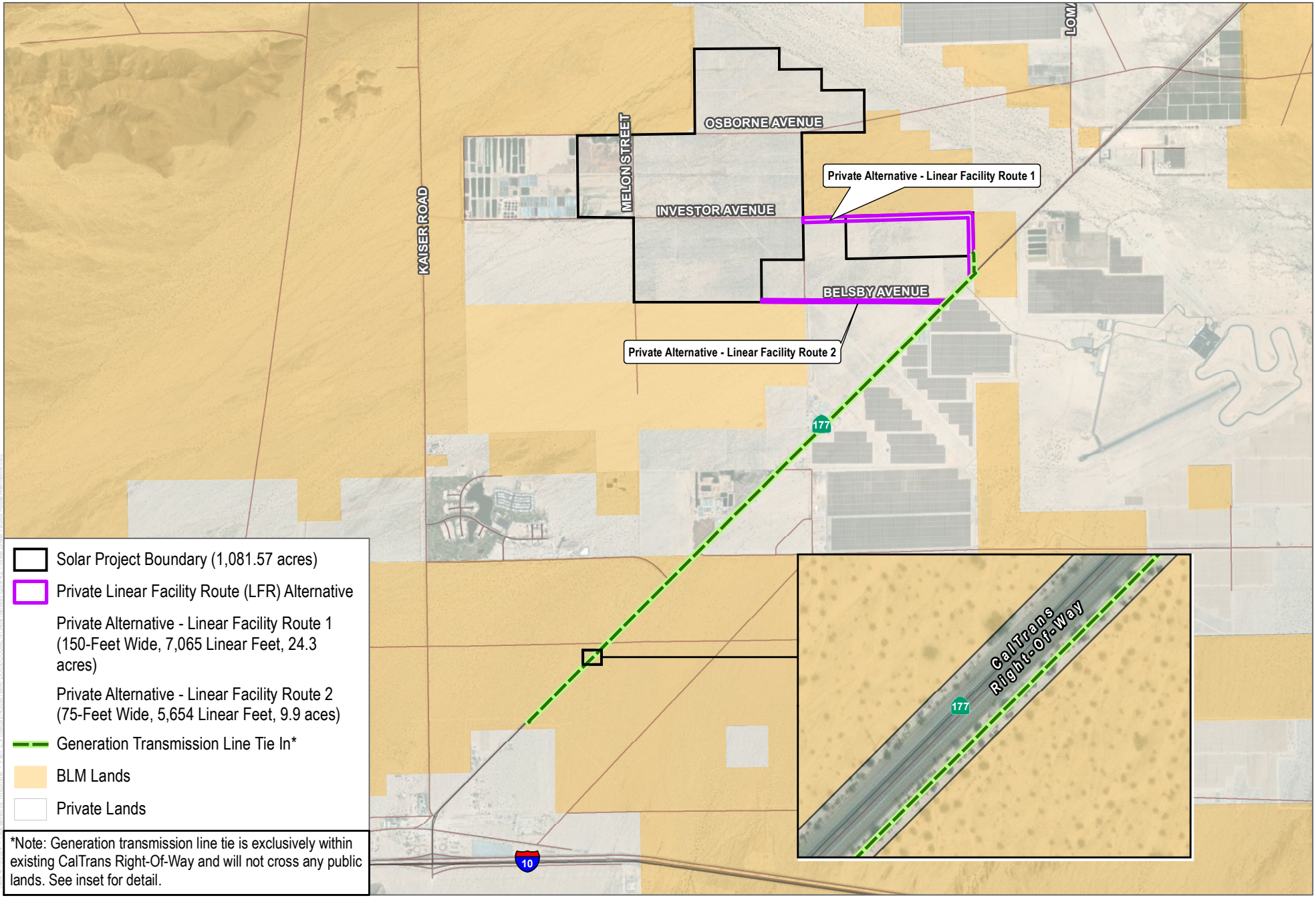
0 2,000 4,000 Feet

FIGURE 4.1

Reduced Footprint Alternative

Sapphire Solar Project

INTENTIONALLY LEFT BLANK



SOURCE: Esri World Imagery Basemap (accessed 2022); County of Riverside 2022; BLM 2022

DUDEK

0 2,000 4,000 Feet

FIGURE 4.2

Private Linear Facility Route Alternative

Sapphire Solar Project

INTENTIONALLY LEFT BLANK

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.

INTENTIONALLY LEFT BLANK

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		
Keith Carwana	Project Manager	Quality Assurance/Quality Control
Chelsea Ohanesian	CEQA Lead	Quality Assurance/Quality Control, Agriculture and Forestry Resources, Land Use and Planning, Recreation
Joshua Saunders	Environmental Planner	Aesthetics
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
	Michael Baker International	
Erik Yamashiro	Senior Associate Technical Manager – Lighting Design	Photometric Lighting Study
	Ninyo & Moore	
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