3.1.8 Utilities and Service Systems

This section discusses potential impacts to utilities and service systems, including water, wastewater, and solid waste hauling and disposal, resulting from the implementation of the Proposed Project. Electrical and natural gas systems are not included in this analysis because the Proposed Project would not require extension of natural gas services, and the Proposed Project would construct electrical generation and transmission facilities as a part of the Project. The analysis is based on the review of existing resources, technical data, and applicable laws, regulations, and guidelines, as well as the following technical reports prepared for this Proposed Project:

- Drainage Study - JVR Energy Park Project (Appendix I)
- Groundwater Resources Investigation Report - JVR Energy Park Project (Appendix J)
- Groundwater Monitoring and Mitigation Plan (Appendix A of the Groundwater Investigation Report)
- Stormwater Quality Management Plan - JVR Energy Park Project (Appendix K)

These reports were prepared consistent with the County of San Diego (County) Guidelines for Determining Significance and Report Format and Content Requirements: Hydrology (Hydrology Guidelines; County of San Diego 2007a), Guidelines for Determining Significance and Report Format and Content Requirements: Surface Water Quality (Surface Water Quality Guidelines; County of San Diego 2007b), and Guidelines for Determining Significance and Report Format and Content Requirements: Groundwater Resources (County of San Diego 2007c).

Comments received in response to the Notice of Preparation (NOP) included concerns regarding the availability of water and the estimation of demand for water. These concerns are addressed in this section. A copy of the NOP and comment letters received in response to the NOP is included in Appendix A of this Environmental Impact Report (EIR).

3.1.8.1 Existing Conditions

The Proposed Project would be located in the Jacumba area of southeastern San Diego County (County). The Project site is located on privately owned land consisting of 24 parcels located to the south of Interstate (I)8, immediately east of the unincorporated community of Jacumba Hot Springs, and immediately north of the U.S./Mexico international border. The Project site is located within the Jacumba Subregional Group Area of the County's Mountain Empire Subregional Plan Area.

An existing transmission corridor transects the northern area of the Project site. The east-west corridor is located immediately north of the proposed switchyard and adjacent substation sites. Existing transmission infrastructure installed within the corridor includes two 500 kV

transmission lines (i.e., Southwest Powerlink and Sunrise Powerlink) on 155-foot tall transmission towers. An additional 138 kV transmission line parallels the 500 kV transmission lines. The transmission lines extend to the east and beyond the Project site. The East County Substation and Jacumba Solar facility are located over 1.7 miles away to the east.

Baseline utilities and service systems information was obtained through a review of other recent development review documents including the Final Environmental Impact Report (EIR) for the Jacumba Solar Energy Project (County of San Diego 2016), as well as of several websites as cited below.

Hydrological Setting

The contributing watersheds to the Project site cover 71,040 acres (111 square miles), with 76% located in Baja California, Mexico (Appendix J). The contributing watersheds are located in the Upper Carrizo Creek watershed as defined by the U.S. Geological Survey (see Figure 2.7-4, Hydrologic Areas). The majority of flow from Mexico north into the Jacumba Valley is derived from the Flat Creek subwatershed, which includes Blue Angel Peak and an unnamed subwatershed. The subwatersheds predominantly located in the United States are the Boundary Creek and Walker Canyon-Carrizo Creek subwatersheds. The Jacumba Valley ultimately drains through a narrow constriction north of Jacumba Hot Springs known as the Carrizo Gorge.

Climate & Precipitation

Jacumba Hot Springs experiences warm summer months and cool winters. Average temperatures vary greatly within the region. Mean maximum temperatures in the summer months reach the high-80s to low-90s degrees Fahrenheit. Temperatures may fall below freezing in the winter, with snow levels occasionally below 2,500 feet (WRCC 2019).

The precipitation that recharges the Project site falls within the contributing watersheds. Annual precipitation totals at the Jacumba rain gauge varied from a high of 22.16 inches in the 1982-1983 water year to a low of 2.26 inches in the 2001–2002 water year (Appendix J). The majority of the Flat Creek subwatershed receives an average of 11 inches of precipitation per year. The lower elevations of the subwatershed receive an average of 9 inches of precipitation per year. Mean annual precipitation, as determined from the County of San Diego map entitled "Groundwater Limitations Map" on file with the Clerk of the Board of Supervisors as Document No. 195172, indicates the Walker Canyon-Carrizo Creek subwatershed receives an average of 9 inches of precipitation per year. The Groundwater Limitations Map indicates that the majority of the Boundary Creek subwatershed receives an average of 14 inches of precipitation per year at its highest elevation, and an average of 9 inches of precipitation per year at its lowest (Appendix J). The annual estimated evapotranspiration for the Project site is 18.75 inches (Appendix J).

Hydrogeologic Units

The Project site is located within the California Department of Water Resources Bulletin 118 defined Jacumba Valley Groundwater Basin, Department of Water Resources Basin No. 7-47 (Appendix J). The Jacumba Valley Groundwater Basin consists of two primary aquifer units. The upper alluvial aquifer unit reaches up to 175 feet in thickness and consists of Holocene-age gravels, sands, and clays (Dudek 2016a; DWR 2004). In some areas, this aquifer unit is underlain by the Jacumba Volcanics that reportedly act as a semi-confining to confining unit to the lower aquifer. The lower aquifer consists of the Tertiary-age Table Mountain Formation described as medium- to coarse-grained sandstone and conglomerate, and may reach up to 600 feet in thickness (Appendix J).

Surface Water Quality

The beneficial uses of the surface water bodies in the Project area have been designated by the Colorado River Regional Water Quality Board (RWQCB) in the Water Quality Control Plan for the basin (otherwise known as the Basin Plan). The beneficial uses provide the basis for determining appropriate water quality objectives that are needed to maintain the beneficial uses of these water bodies. The Basin Plan for each region also includes water quality objectives that are protective of the identified beneficial uses; the beneficial uses and water quality objectives collectively make up the water quality standards for the region.

The objective of the federal Clean Water Act (CWA) is "to restore and maintain the chemical, physical, and biological integrity of the nation's waters." Under CWA Section 303(d), the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. There are no water bodies occurring within the Proposed Project area that are listed on the CWA 303(d) List (impaired water bodies) (SWRCB 2016). The Project is not in a watershed with a high receiving water risk, as defined in the Construction General Permit (CGP) Guidance (SWRCB 2018). High risk watersheds are mapped Hydrologic Unit Code (HUC) Level 12 watersheds that drain to waterbodies that are either 1) CWA 303(d) listed as being impaired for sediment/siltation, 2) have a U.S. Environmental Protection Agency-approved, sediment-related Total Maximum Daily Load, or 3) have the existing beneficial uses of SPAWN, MIG, and COLD according to the Basin Plan (RWQCB 2019).

Groundwater Demand and Resources

The Mountain Empire Subregion relies on groundwater to supply local water (County of San Diego 2011a). The availability of groundwater varies from location to location. Intensity of development within the Subregion is limited because the area is totally dependent on local groundwater resources for potable water (County of San Diego 2011b).

Water service in the Proposed Project area consists exclusively of groundwater wells—either private, tribal, state, federal, or part of small community water districts. Groundwater from the Jacumba Valley alluvial aquifer is the primary source of water supply for land uses in the Project area. Agriculture located on the Jacumba Valley Ranch historically extracted the majority of groundwater from the Jacumba Valley alluvial aquifer. Currently no water is being extracted from the Jacumba Valley Ranch for agricultural uses.

The current water demand for the Jacumba Valley alluvial aquifer includes potable demand for Jacumba Valley Ranch Water Company (formerly the Ketchum Ranch Water Company), and potable and non-potable demand from the Jacumba Community Services District (JCSD).

The Jacumba Valley Ranch Water Company is classified as a transient non-community water system. According to County Department of Environmental Health Small Drinking Water System files, seven connections—three ranch homes, two gas stations, and two fire hydrants—are part of the Jacumba Valley Ranch water system (Appendix J). Estimated water demands for the Jacumba Valley Ranch Water Company is 5 f.

Most residences and commercial uses in the Project vicinity rely on JCSD groundwater wells for their source of water. The JCSD pumps local groundwater from district-owned wells for distribution to residential connections. JCSD is responsible for the community of Jacumba's domestic water system, which currently provides service to residential and commercial properties. At present, JCSD supplies potable water to 239 connections from JCSD Well #4 (Appendix J). JCSD also supplies non-potable water for commercial sale. In addition to JCSD potable water demand, the Groundwater Resources Investigation (Appendix J) assumed a consumptive use of 3 acre-feet per year (afy) for unidentified private domestic wells located in the basin.

Groundwater Quality

The availability of groundwater quality data from the major unconfined alluvial aquifers of San Diego County vary based on use. Existing water quality data for large highly utilized unconfined alluvial aquifers is continually collected by state and local water agencies as well as the California Department of Public Health and the DWR.

Of California's approximately 16,000 public-supply wells, 80% are in groundwater basins designated by the California Department of Water Resources (DWR) and characterized as unconfined alluvial aquifers (USGS 2011). The County's Groundwater Resources Guidelines do not identify the Proposed Project area as being within a specific groundwater problem area (such as an overdrafted basin or areas with high levels of naturally occurring radioactive elements) (County of San Diego 2007c).

Groundwater on and near the Project site is routinely sampled for water served for potable use. Groundwater is sampled by the JCSD for potable wells and submitted to the State Water Resources Control Board (SWRCB). The Jacumba Valley Ranch Water Company (formerly the Ketchum Ranch Water Company) samples groundwater in accordance with requirements set forth by the County of San Diego Department of Environmental Health for a Transient Non-Community water system. Less frequent or one-time groundwater quality sampling has occurred near the Project site for leaking underground storage tank cleanup sites (SWRCB 2019).

Spring water in the northern area of the Jacumba Valley at Carrizo Gorge had measured total dissolved solids concentrations ranging from 2,000 to 6,000 milligrams per liter. Surface water drainage measured from the Flat Creek watershed and the Boundary Creek watershed have had recorded total dissolved solids at 292 to 422 milligrams per liter and 1,640 milligrams per liter, respectively (Roff and Franzone 1994). Historically, groundwater included sodium chloride, calcium chloride, and calcium sulfate) (Appendix J).

Wastewater

Wastewater services in the Mountain Empire Subregion are provided by small-scale waste treatment facilities or by private septic systems. There is no formal sanitation district in the Project area. The vast majority of the community relies on individual septic tanks that are the responsibility of home owners (CPUC and BLM 2011).

Solid Waste

Residential solid waste disposal in unincorporated San Diego County was historically facilitated through the use of rural bin sites. Essentially, rural bin sites function as transfer stations at which residents dispose of residential waste, and licensed haulers transport the waste to an area landfill. However, as of May 1, 2009, all rural bin sites in unincorporated San Diego County were closed by Allied Waste Industries (County of San Diego 2012). There are six permitted active landfills located within the County with remaining capacity. The landfills nearest the Project area in San Diego County are the Sycamore Landfill in Santee (approximately 52 miles northwest of the Project site) and the Otay Landfill in Chula Vista (approximately 48 miles west of the Project site). The Sycamore Landfill has a permitted disposal rate/throughput of 5,000 tons per day, and a remaining capacity of 113,972,637 cubic yards (as of September 6, 2020) (CalRecycle 2020a). The Otay Landfill has a permitted disposal rate/throughput of 6,700 tons per day, and a remaining capacity of 21,194,008 cubic yards (as of September 6, 2020) (CalRecycle 2020b).

3.1.8.2 Regulatory Setting

Federal Regulations

National Pollution Discharge Elimination System Permits In California, the SWRCB and its RWQCBs administer the National Pollution Discharge Elimination System (NPDES) permit program. The NPDES permit system was established in the Clean Water Act to regulate point-source discharges and nonpoint-source discharges to surface waters of the United States. The NPDES program characterizes receiving water quality, identifies harmful constituents, targets potential sources of pollutants, and implements a comprehensive stormwater management program. Construction and industrial activities are typically regulated under statewide general permits that are issued by the SWRCB. The RWQCB also issues Waste Discharge Requirements that serve as NPDES permits under the authority delegated to the RWQCBs under the Clean Water Act. In November 1990, under Phase I of the urban runoff management strategy, the Environmental Protection Agency published NPDES permit application requirements for municipal, industrial, and construction stormwater discharges. With regard to municipalities, the permit application requirements were directed at jurisdictions owning or operating municipal separate storm sewer systems (MS4s) serving populations of 100,000 or more, or contributing significant pollutants to waters of the United States.

State Regulations

The following state regulations pertaining to utilities and service systems would apply to the Proposed Project.

California Integrated Waste Management Board Solid Waste Policies

Assembly Bill (AB) 939, the Integrated Waste Management Act, established an integrated waste management hierarchy to guide the California Integrated Waste Management Board (now the California Department of Resources Recycling and Recovery, or CalRecycle) and local agencies in the implementation of programs geared at (1) source reduction, (2) recycling and composting, and (3) environmentally safe transformation and land disposal. AB 939 also included waste diversion mandates that require all cities and counties to divert 50% of all solid waste through source reduction, recycling, and composting activities. The Integrated Waste Management Act also requires that each county provide capacity for solid waste generated within its jurisdiction that cannot be reduced or recycled for a 15-year period (CalRecycle 2012).

Regional Water Quality Control Board

The statutes that govern the activities under the Project that may affect water quality are the federal Clean Water Act (33 USC 1251 et seq.) and the Porter-Cologne Water Quality Control

Act (PorterCologne Act) (California Water Code, Section 13000 et seq.). These acts provide the basis for water quality regulation in the Project Area.

The California Legislature has assigned the primary responsibility to administer and enforce statutes for the protection and enhancement of water quality to the SWRCB and its nine RWQCBs. The SWRCB provides state-level coordination of water quality control by establishing statewide policies and plans for implementation of state and federal regulations. The nine RWQCBs throughout California adopt and implement water quality control plans that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. The RWQCB adopts and implements a Basin Plan that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan (California Water Code Sections 13240–13247). The Project Area is located east of the Pacific/Salton Divide and is outside the jurisdiction of the San Diego RWQCB. Because of this, the Proposed Project is exempt from classification as a priority development project. Requirements that apply to all land development projects including Standard Projects include implementation of source control and site design BMPs as described in Chapter 4 of the BMP Design Manual. Detailed submittal requirements including documentation of each selected BMP are provided in Chapter 8 of the BMP Design Manual.

Construction General Permit (SWRCB Order 2009-0009-DWQ, as amended by Order 2010-0014-DWQ)

On September 2, 2009, the SWRCB issued a new NPDES General Permit for Storm Water Associated with Construction Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002), that became effective July 1, 2010. For stormwater discharges associated with construction activity in the State of California, the SWRCB has adopted the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (i.e., CGP) in order to avoid and minimize water quality impacts attributable to such activities. The CGP applies to all projects where construction activity disturbs 1 or more acres of soil. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling and excavation. The CGP requires the development and implementation of a stormwater pollution prevention plan (SWPPP), which would include and specify BMPs designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off site into receiving waters. Routine inspection of all BMPs is required under the provisions of the CGP. In addition, the SWPPP must contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the Section 303(d) list for sediment (which the Project site does not).

Local Regulations

County of San Diego On-Site Wastewater System Groundwater Policy

On-site wastewater treatment systems discharge pollutants to groundwater, and therefore are regulated by the State Water Code. State Water Code Section 13282 allows RWQCBs to authorize a local public agency to issue permits for and to regulate on-site wastewater treatment systems "to ensure that systems are adequately designed, located, sized, spaced, constructed and maintained." The RWQCB with jurisdiction over San Diego County authorizes the County Department of Environmental Health to issue certain on-site wastewater treatment system permits that ensure compliance with the County of San Diego Onsite Wastewater Treatment Groundwater Policy throughout the County, including within incorporated cities. No city within San Diego County is authorized to issue these permits.

County of San Diego Construction and Demolition Materials Ordinance

The County of San Diego Construction and Demolition Materials Ordinance (Sections 68.508 through 68.518 of the County Code of Regulatory Ordinances) is intended to increase diversion of construction and demolition materials from landfills in order to conserve landfill capacity and extend the useful life of local landfills. The ordinance requires that projects totaling over 40,000 square feet of construction, prepare a debris management plan that specifies the type of project, total square footage of construction, and (among other items) the estimated volume and weight of construction and demolition debris that would be disposed of at a landfill. Applicants of applicable projects are required to submit a performance guarantee (payment) to the County to ensure that the project complies with the diversion standards (i.e., projects shall recycle 90% inert construction and demolition debris and 70% of all other construction and demolition debris) of the Construction and Demolition Materials Ordinance. As the Proposed Project would involve more than 40,000 square feet of construction, it is considered an applicable project under the Construction and Demolition Materials Ordinance.

County of San Diego Best Management Practice Design Manual

The 2019 County of San Diego BMP Design Manual provides guidance for land development and public improvement projects to comply with the 2013 MS4 Permit (Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100). The BMP Design Manual has been updated and replaces the February 2016 version. It is focused on project design requirements and related postconstruction requirements, not on the construction process itself (County of San Diego 2019).

County of San Diego Grading Ordinance

The County Code Title 8, Division 7, Excavation and Grading, Clearing and Watercourses (Grading Ordinance), echoes protections at the federal level by prohibiting any actions or development that would impede water flows, and addresses grading and clearing near watercourses. The Grading Ordinance requires that projects involving more than 200 cubic yards of grading, clearing, and/or removal of natural vegetation obtain a grading permit. Grading permits are discretionary and require compliance with CEQA. Additional information specific to grading permit requirements is discussed in Section 2.5, Geology, Soils, and Seismicity, of this EIR.

Chapter 6 of the Grading Ordinance exists to protect people and property against flood hazards by prohibiting the alteration of the surface of land to reduce the capacity of a watercourse, and prohibit any action that impairs, impedes, or accelerates the flow of water in a watercourse in such a manner that adversely affects adjoining properties. The Grading Ordinance prohibits any land alteration or construction of structures in, upon, or across a watercourse without first obtaining a permit.

Enforcement occurs at the time that grading plans or improvement plans are reviewed during the grading permit process. The County official will not approve grading plans or improvement plans unless the official determines that the proposed grading does not create an unreasonable hazard of flood or inundation to people or property. The Project Area is identified by the Federal Emergency Management Agency as being within Zone D (Appendix K), which indicates that flood risk is undetermined because the agency has not conducted a flood hazard analysis. The Project Area is not downstream of a dam and thus would not be subject to inundation in the event of a dam failure; nor is the Project Area subject to seiche or tsunami (due to the great distance to the ocean or large body of water). In addition, the Project Site is not within any County-identified flood hazard areas (e.g., alluvial fan flooding area) (County of San Diego 2007). Even though the Project Site is not within an identified flood hazard area as defined by either the Federal Emergency Management Agency or the County, the provisions of the Grading Ordinance apply to the Proposed Project facilities because the Project would result in land alteration and construction of structures within a watercourse, as defined by the ordinance.

San Diego County Groundwater Ordinance

The County adopted the San Diego County Groundwater Ordinance in 1991; it was last amended in 2013. The Groundwater Ordinance establishes regulations for the protection, preservation, and maintenance of groundwater resources and is contained within the San Diego Code of Regulatory Ordinances, Title 6, Division 7 Chapter 7 Groundwater Sections 67.701 – 67.750 (County of San Diego 2013). The purpose of the ordinance is to ensure that development does not occur in groundwater-dependent areas of the County unless adequate supplies are available

to serve both existing and proposed uses. Section 67.722 (All Other Projects) of the Groundwater Ordinance regulates all unincorporated areas within the County outside Borrego Valley. For applicable discretionary permit applications, the following findings must be made: (1) For projects using greater than 20 afy or 20,000 gallons per day, groundwater resources must be adequate to meet the groundwater demands both of the project and the groundwater basin if the basin were developed to the maximum density and intensity permitted by the General Plan, and (2) for all other projects, that groundwater resources must be adequate to meet the groundwater demands of the project.

The San Diego Groundwater Ordinance defines a water intensive use as, "Any land use that requires a permit listed in Section 67.711 and is not exempt from this ordinance, and that will require more water than 20 afy or more than 20,000 gallons per day." While there is an initial peak water demand required for Project construction, operational water demands are minimal, and when Project water demands are amortized over the life of the Project, do not represent a water intensive use.

County of San Diego Watershed Protection Ordinance

On May 8, 2013, the San Diego RWQCB adopted a new Municipal Stormwater Permit (NPDES Permit No. R9-2013-0001) that covered the San Diego County Co-permittees. The Municipal Stormwater Permit mandates that the County develop new and updated Runoff Management Plans and Programs, including Water Quality Improvement Plans and a Jurisdictional Runoff Management Plan. These plans were submitted to the RWQCB on June 26, 2015. Permit requirements are generally implemented in the unincorporated County under authority of the Watershed Protection, Stormwater Management, and Discharge Control Ordinance. The amended MS4 Permit, like all previous iterations, requires the County to establish and maintain adequate legal authority to implement all updated Regional MS4 Permit provisions. The Watershed Protection, Stormwater Management, and Discharge Control Ordinance has been amended to ensure that it is current with the minimum requirements of the recently amended Regional MS4 Permit. The amendments include updating terminology and definitions related to land development priority development projects, removal of outdated sections, minor updates to discharge prohibitions, and the incorporation of an optional program to allow development projects to satisfy some of its stormwater compliance obligations at off-site locations

County of San Diego General Plan

Updated (and adopted) in August 2011, the San Diego County General Plan guides future growth in the unincorporated areas of the County and considers projected growth anticipated to occur within various communities. The Land Use Element, Community Services and Infrastructure section contains policies and objectives that were determined to be applicable to Proposed

Project components. Refer to Section 3.1.4, Land Use and Planning, for policies and objectives of the County of San Diego General Plan that are applicable to the Proposed Project.

Coordination among Facility Planning, Financing Programs and Land Use Planning

- **Policy LU-12.1: Concurrency of Infrastructure and Services with Development.** Require the provision of infrastructure, facilities, and services needed by new development prior to that development, either directly or through fees. Where appropriate, the construction of infrastructure and facilities may be phased to coincide with project phasing.
- **Policy LU-12.3: Infrastructure and Services Compatibility.** Provide public facilities and services that are sensitive to the environment with characteristics of the unincorporated communities. Encourage the collocation of infrastructure facilities, where appropriate.

Water Supply

- **Policy LU-8.1:** Require land use densities in groundwater dependent areas to be consistent with the long-term sustainability of groundwater supplies, except in the Borrego Valley.
- **Policy LU-**8.2: Require development to identify adequate groundwater resources in groundwater dependent areas, as follows:
    - In dependent areas within currently identified groundwater overdrafted basins, prohibit new development from exacerbating overdraft conditions, and
    - In areas without current overdraft groundwater conditions, evaluate new groundwater-dependent development to assure a sustainable long-term supply of groundwater is available that will not adversely impact existing groundwater users.
- **Policy LU-8.3:** Discourage development that would significantly draw down the groundwater table to the detriment of groundwater-dependent habitat.
- **Policy LU-13.1: Adequacy of Water Supply.** Coordinate water infrastructure planning with land use planning to maintain an acceptable availability of a high quality sustainable water supply. Ensure that new development includes both indoor and outdoor water conservation measures to reduce demand.
- **Policy LU-13.2: Commitment of Water Supply.** Require new development to identify adequate water resources, in accordance with State law, to support the development prior to approval.

The following policies identified in the General Plan, Conservation and Open Space Element would be applicable to Proposed Project components:

- **Policy COS-17.1: Reduction of Solid Waste Materials.** Reduce greenhouse gas emissions and future landfill capacity needs through reduction, reuse, or recycling of all types of solid waste that is generated. Divert solid waste from landfills in compliance with State law.
- **Policy COS-17.2: Construction and Demolition Waste.** Require recycling, reduction and reuse of construction and demolition debris.
- **Policy COS-17.6: Recycling Containers.** Require that all new land development projects include space for recycling containers.
- **Policy COS-19.1: Sustainable Development Practices.** Require land development, building design, landscaping, and operational practices that minimize water consumption.
- **Policy COS-19.2: Recycled Water in New Development.** Require the use of recycled water in development wherever feasible. Restrict the use of recycled water when it increases salt loading in reservoirs.

Mountain Empire Subregional Plan

The Mountain Empire Subregional Plan (a supplement to the County General Plan) establishes goals and policies to guide development within the areas of Tecate, Potrero, Boulevard, Campo/Lake Morena, Jacumba, and the Mountain Empire Balance which together compose the Mountain Empire Subregion of southeastern San Diego County. The goals and policies of the Subregional Plan are intended to be more specific than those of the County General Plan as they consider the distinct history, character, and identity of Mountain Empire communities.

Policies in the Mountain Empire Subregional Plan that relate to the Proposed Project are presented in Table 3.1.4-4 of this EIR.

Public Facilities and Services

- Uses proposed for property adjacent to substations or transmission line right-of-ways should be reviewed for possible impacts to the power facilities and vice versa.

3.1.8.3 Analysis of Project Effects and Determination as to Significance

The Proposed Project is a solar energy generation and energy storage facility, which includes a switchyard that would be transferred to SDG&E once constructed. For the purposes of this analysis, the switchyard (as described in Chapter 1.2.2 of this EIR) is a component of the Project

and has been analyzed as part of the whole of the action. However, the EIR highlights the specific analysis of the switchyard under each threshold of significance in the event that responsible agencies have CEQA obligations related to the switchyard.

3.1.8.3.1 Water/Wastewater

Guidelines for the Determination of Significance

The County's Guidelines for Determining Significance do not include significance thresholds or guidance for determining significance for impacts to utilities and service systems. Therefore, for the purpose of this EIR, Appendix G of the California Environmental Quality Act (CEQA) Guidelines applies to the direct and indirect impact analysis, as well as the cumulative impact analysis. A significant impact would result if the project would:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- Not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

Analysis

The Proposed Project would be an unmanned facility that would be monitored and operated from an off-site supervisory control and data acquisition (SCADA) system. For these reasons, the Proposed Project would not require or result in the relocation or construction of new or expanded water or wastewater treatment, natural gas, or telecommunications facilities which could cause significant environmental effects. Furthermore, the Proposed Project is a solar energy generation and storage facility that would generate electric power through solar energy and thus would not require or result in the relocation or construction of new or expanded electric power facilities as a result of the Proposed Project.

Switchyard

The switchyard would also be an unmanned facility that would be monitored and operated from an off-site SCADA system. For these reasons, the switchyard would not require or result in the relocation or construction of new or expanded water or wastewater treatment, natural gas, or telecommunications facilities which could cause significant environmental effects. Furthermore, the switchyard is a component of an energy facility that would generate electric power and thus would not require or result in the relocation or construction of new or expanded electric power facilities as a result of the Proposed Project

Water

The following analysis focuses on whether there are sufficient water resources to serve the Proposed Project. Additionally, the following analysis briefly discusses stormwater and drainage facilities, which are more fully discussed in Section 2.7, Hydrology and Water Quality, of this EIR.

The Project site is located in a groundwater-dependent area of San Diego County. The Project would use groundwater from two existing on-site groundwater wells (Well #2 and Well #3) in the Jacumba Valley alluvial aquifer. These two wells were previously used as agricultural wells for the Jacumba Valley Ranch and Bornt Farms (Dudek 2020). Both wells have been tested and documented to produce sufficient water supply for the Project as discussed in more detail below. Estimated water demand by the Proposed Project during the construction phase, operation and maintenance, and decommissioning phases is discussed in more detail in the following subsection.

Estimated Groundwater Demand by the Proposed Project

Construction

Estimated construction water demand by construction activity is provided in Table 3.1.8-1. As shown in Table 3.1.8-1, the Project would require a maximum water demand of approximately 358,436 gallons per day (approximately 250 gallons per minute) for approximately the first 6 weeks during grading activities. Total construction water demand would be approximately 140 af (af) over 365 days. This demand constitutes the peak of the water demand for the Proposed Project and would be of short duration (365 days).

Operation and Maintenance

During operation, the Proposed Project would require water for panel washing up to four times per year. Similar solar facility operations use approximately 0.3 gallons of water per square yard of panel. Based on the planned 90 MW capacity of the Proposed Project, approximately 300,000 panels at approximately 21 square feet per panel totaling 6,259,500 square feet (695,500 square yards) may be washed up to 4 times per year. Estimated operational water demand by operational activity is provided in Table 3.1.8-2. As shown in Table 3.1.8-2, annual operational water demand for would be approximately 2.6 afy for panel washing, and approximately 8.4 afy for irrigation of the landscape buffers. Therefore, the total operational water demand would be approximately 11 afy. It should be noted that actual water use during operation for panel washing may be considerably less based on documented water demand for the nearby active Jacumba Solar project. Project operations would go on for approximately 35 years.

Decommissioning

It is estimated that the amount of water necessary to decommission the Proposed Project would be less than that required for construction, because there would be no need to use water for concrete mixing or to hydrate and compact on-site fills. Estimated decommissioning water demand by activity is provided in Table 3.1.8-3. As shown in Table 3.1.8-3, the activities associated with decommissioning would not include grading, and based on the estimates calculated for construction, water demand for decommissioning dust abatement would be approximately 40 af of water total. Additional equipment washing and modest compaction needs, if necessary, would require approximately 10 af. Thus, the total estimated water demand for decommissioning is approximately 50 af. Project decommissioning would require 50 af over a 10-month period at the end of the useful life for dust abatement, equipment washing and compaction.

Total Estimated Water Demand for Proposed Project

In summary, the Project would use up to 140 af (45.6 million gallons) during construction for 1 year, approximately 11 afy during operations and maintenance over 38 years, and 50 af for a 10-month period during decommissioning.

Estimated Groundwater Demand by all Current Users of the Basin

Below is a discussion of current groundwater demand for the various other parties known to extract groundwater from the Jacumba Valley alluvial aquifer.

Current groundwater demand from the Jacumba Valley alluvial aquifer includes extraction by JCSD, Jacumba Valley Ranch Water Company, and a few potential domestic well owners. The Project site, which was historically produced an excess of 2,000 afy, no long extracts groundwater for agriculture. The Jacumba Valley Ranch Water Company, which has historically extracted an excess of 242 afy, currently supplies approximately 5 afy for three ranch homes, two gas stations, and two fire hydrants (Barrett 1996; McCullough, pers. comm. 2015).

JCSD continues to extract both potable and non-potable groundwater from the Jacumba Valley alluvial aquifer. At present, JCSD supplies potable water to 239 connections from JCSD Well #4. .Based on the number of connections and an estimated 0.5 afy per connection, JCSD potable water demand is estimated to be 119.5 afy (Appendix J). This estimate roughly coincides with average historical water demand from 1991 to 1995 (average 119 afy), and conservatively overestimates more recent production data received by the previous JCSD General Manager in 2014 (Appendix J).

JCSD also supplies non-potable water for commercial sale. Historically, JCSD has supplied non-potable water from Well #6, a fractured rock well not screened in the Jacumba Valley alluvium. Beginning in 2016, JCSD began supplying non-potable water from the Highland Center Well

and the Park Well, both screened in the Jacumba Valley alluvium. Maximum annual groundwater extraction from the Jacumba Valley alluvial aquifer by JCSD for non-potable water use is 53.6 afy but in 2018 JCSD was estimated to produce 4 afy on non-potable water from the Highland Center Well and Park Well (Appendix J).

In addition, there may be small volumes of groundwater (approximately 3 afy) extracted from domestic wells located in the residential area in Jacumba Hot Springs. Table 3.1.8-4 provides water demand from the Jacumba Valley alluvial aquifer.

Estimated Future Demand by all Users of the Basin

Table 3.1.8-5 provides historic, current and future water demand during the Proposed Project's construction and ongoing operations. As shown in Table 3.1.8-5, historically groundwater demand from the Jacumba Valley alluvial aquifer has been estimated to be up to 2,066 afy (Barrett 1996). However, a drastic reduction in groundwater production has occurred since agriculture irrigation ceased on Jacumba Valley Ranch.

The current groundwater demand from the Jacumba Valley alluvial aquifer from all users is estimated to be 131.5 afy (Table 3.1.8-5). Future demand is expected to include JCSD potable and non-potable demand, Jacumba Valley Ranch Water Company, and private domestic users. Potable groundwater use from JCSD, the Jacumba Valley Ranch Water Company, and private domestic users. JCSD has the potential to serve non-potable from the Highland Center and the Park Well. JCSD completed a manganese water treatment system for Wells #7 and #8 that is serving all potable water demands for its customers (Appendix J). This treatment system came online on March 6, 2020. Wells #7 and #8 source water from the fractured rock aquifer rather than the Jacumba Valley alluvial aquifer. The future projected water demand conservatively evaluates the Proposed Project and other projects taking place concurrently. An additional 140 af would be extracted during Proposed Project construction, resulting in a 1-year extraction of 442 af from the aquifer, assuming other groundwater users continue their current estimated extraction amounts. After Proposed Project construction, ongoing groundwater productions from the alluvial aquifer are estimated to be 30.3 afy, based on 11 afy of Proposed Project water use for operations and maintenance, 11.3 af of continuous non-potable water use by JCSD and 8 afy for private domestic and Jacumba Valley Ranch Water Company (Table 3.1.8-5). Additionally, the Proposed Project would extract groundwater for decommissioning in the future.

Estimated Groundwater Supply

Supply from Well No. 2 and Well No. 3

As discussed above, water for the Proposed Project would be supplied by on-site groundwater wells #2 and #3 screened in the Jacumba Valley alluvial aquifer. The Groundwater Investigation

Report (Appendix J) inspected and tested for suitability the two on-site groundwater wells that are proposed to supply groundwater to the Proposed Project (Well #2 and Well #3). The tests obtained approximate long-term production rates, estimated drawdown at off-site wells and groundwater-dependent habitat, and estimated aquifer properties. These tests determined a maximum annual production of approximately 511 afy from well #2 and 564 afy from well #3, which are significantly greater than the Project water demand of 140 af of water during Project construction (1 year), 11 afy for ongoing operations and maintenance (35 years), and 50 af for decommissioning and dismantling (1 year).

Groundwater Storage

The Groundwater Investigation Report (Appendix J) found that the current groundwater in storage within the Jacumba Valley alluvial aquifer, including the portion of the alluvial aquifer located in Mexico, is conservatively estimated to be 9,005 af (Appendix J). Table 3.1.8-6 provides a breakdown of the current groundwater storage within the Jacumba Valley alluvial aquifer.

The Groundwater Investigation Report (Appendix J) evaluated the long-term groundwater availability in context of the current available groundwater in storage, historical groundwater levels, and water demand. The volume of groundwater in storage varies depending on the rate of recharge and the volume of water pumped from storage (water demand). Sustainable groundwater availability is less than the historical average groundwater production rate of 2,066 afy from 1932 to 1977. This is observed during dry periods when the Jacumba Valley experienced groundwater overdraft, as indicated by declining groundwater levels in the alluvial aquifer wells. Pumping by Jacumba Valley Ranch between 2003 and 2013 also resulted in groundwater level declines in the alluvial aquifer. Bornt Farms grew lettuce and spinach on up to 465 acres, year-round, with an estimated maximum extraction rate of 995 af per year (Barrett 1996; UC Davis 2011). Due to Bornt Farms irrigation and below average precipitation recorded in the contributing watersheds over the last decade, the water demands exceeded available recharge, resulting in groundwater level decline. Several years of drought and limited non-potable extraction by JCSD likely contributed to the current groundwater level decline.

The Proposed Project proposes to extract groundwater for 1 year at a maximum quantity of 140 af. This one time use of groundwater for construction is approximately 10% of the annual production quantity of Bornt Farms, and 5% of the annual production quantity of Jacumba Valley Ranch. After Proposed Project construction, groundwater extraction for operation and maintenance would be 0.9% of the annual production quantity of Bornt Farms and 0.5% of the annual production quantity of Jacumba Valley Ranch for the maximum groundwater historically extracted from the Project site. Groundwater extraction for decommissioning and dismantling would be 5% of the annual production quantity of Bornt Farms and 2% of the annual production quantity of Jacumba Valley Ranch for the maximum groundwater historically extracted from the Project site.

Supply and Demand Comparison

The Proposed Project proposes to use 140 af during construction for 1 year. Assuming no recharge to the aquifer, the Proposed Project alone would reduce groundwater in storage by 1.6% during construction. As discussed above, the estimated maximum extraction from all known sources during the period of Proposed Project construction is 442 af. Thus, the total reduction of groundwater in storage from all sources during the construction period is estimated to be 4.9%. Assuming a Proposed Project lifetime of 40 years (1 year of construction, 38 years of operation and maintenance, and 1 year of decommissioning), the Groundwater Investigation Report found that the Proposed Project would use 619 af of groundwater from the alluvial aquifer total. As discussed above, the most recent estimates calculated groundwater in storage in the aquifer to be 9,005 af. Other groundwater uses within the basin including reasonably foreseeable projects would use 1,054 af of water. This equates to a total water demand of 1,673 af, which results in an 18.6% reduction in storage over 40 years, assuming no recharge to the aquifer. This calculation demonstrates that groundwater would not be depleted to 50% or less of the estimated basin storage capacity of 9,005 af. Since the Project would not exceed the 50% reduction in groundwater storage threshold, the peak demand of construction would be of short duration, and other future groundwater demands would be met, there would be sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years. Therefore, the Proposed Project would not require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects. In addition, the Proposed Project would have sufficient water supplies available to serve the project and reasonable foreseeable future development during normal, dry and multiple dry years. Impacts would be **less than significant**.

Switchyard

The switchyard would also be an unmanned facility that would be monitored and operated from an off-site SCADA system. For these reasons, the switchyard would not require or result in the relocation or construction of new or expanded water or wastewater treatment, natural gas, or telecommunications facilities which could cause significant environmental effects. Furthermore, the switchyard is a component of an energy facility that would generate electric power and thus would not require or result in the relocation or construction of new or expanded electric power facilities as a result of the Proposed Project.

The switchyard component of the Proposed Project will be constructed along with the other components of the Project; therefore, this component is part of the approximately 140 af that will be required for the Project's construction. As discussed above, the Groundwater Resources Investigation Report (Appendix J) found that the current groundwater in storage within the Jacumba Valley alluvial aquifer is estimated to be 9,005 af, and that the total depletion in

groundwater in storage as a result of the Proposed Project's construction would be substantially less than the 50% reduction in storage County threshold even assuming no recharge to the aquifer, the peak demand for water would be of short duration, and other cumulative groundwater demands would be met.

The switchyard's construction water demand would be of even shorter duration and would not require as much grading or dust control. In addition, the switchyard's annual operating demand, post-construction, would be approximately 0.01 af of water annually, which is such a minimal amount of af that it would not exceed the County threshold of 50% reduction in groundwater storage assuming no recharge to the aquifer. The pumping rates from onsite wells equate to maximum annual production of approximately 511 afy from Well #2 and 564 afy from Well #3, which are significantly greater than the switchyard's water demand of 0.01 af of water for ongoing operations and maintenance. Therefore, there are sufficient water supplies available to serve the switchyard and reasonably foreseeable future development during normal, dry and multiple dry years and the switchyard would not require or result in the relocation or construction of new or expanded water facilities. Impacts would be **less than significant.**

Stormwater

The Drainage Report prepared for the Proposed Project (Appendix I) analyzed potential impacts of the Project in relation to the hydrology and drainage patterns. Watershed hydrologic run-off calculations were performed for the 100-year storm event using the San Diego County Unit Hydrograph Program (SDUH). Additionally, an analysis of the 100-year flood level was conducted using the Army Corps of Engineers (ACOE) Hydrologic Engineering Centers River Analysis System (HEC-RAS) software (Appendix I). The SDUH and HEC-RAS analysis estimated on-site flood depths for a 100-year flood event are greater than six feet for an area concentrated primarily between Stations 20 and 68 at a maximum of 5 feet, with an average depth of 2 two to 3 three feet across the portion of the Project site subject to flooding.

The Drainage Report (Appendix I) determined that the Proposed Project would produce approximately 1.9 acres (0.0030 square miles) of impervious area. The impervious area would include the proposed photovoltaic tracker pile areas, inverter skid platforms, the battery energy storage areas and the additional substation and switchyard pads. The proposed all weather access road would remain pervious. The Drainage Report determined that the additional impervious area represents 0.0027% of the watershed that is contributing to the stream passing through the proposed site. This increase in impervious area constitutes a small enough area that would not change the overall drainage pattern. The water runoff will flow overland across the Project site in a similar manner as it does in the pre-developed state. Thus, the additional impervious area would have minimal to no impact on existing watershed hydrologically (Appendix I).

As discussed in Section 3.1.8.2 above, a range of state and local water quality regulations and ordinances apply to the Project that require the applicant to submit and implement a Project-specific SWPPP during construction and a Standard SWQMP for operation and maintenance activities.

Because the Project would consist of more than 1 acre, the applicant would be required to submit a Notice of Intent to the SWRCB to obtain approval to carry out construction activities under the CGP. This permit would include a number of design, management, and monitoring requirements for the protection of water quality and the reduction of construction-phase impacts related to stormwater (and some non-stormwater) discharges. Permit requirements would include preparation of a SWPPP, implementation and monitoring of BMPs, implementation of best available technology for toxic and non-conventional pollutants, implementation of best conventional technology for conventional pollutants, and periodic submittal of performance summaries and reports. The SWPPP would apply to the Project as a whole and would include reference to the major construction areas, temporary materials staging areas, access roads, and work associated with generation tie-line facilities. BMPs to be implemented in accordance with the SWPPP would address alteration of drainage patterns, velocity and peak flow rates, and erosion control. The exact location and type of temporary BMPs to be installed during construction would depend on site-specific conditions, `the construction schedule, and proposed activities, all of which would be outlined in the construction SWPPP. Typical BMPs for similar projects include energy dissipaters, silt fences, fiber rolls, gravel/sand bags, construction road stabilization, and stabilized construction entrances. As the project-specific SWPPP is prepared, the location, type, and number of specific BMPs may be refined based on the final designs to most effectively achieve the objective of reducing turbidity and other pollutant loads in stormwater runoff. The provisions of the CGP ensure that site-specific conditions are taken into consideration when developing the construction SWPPP, that personnel developing and implementing the construction SWPPP are qualified, and that BMPs are adequately monitored and maintained.

Permanent water quality BMPs to be installed and maintained on the Project site, per the County of San Diego's BMP Design Manual, are also identified in the Project Standard Stormwater Quality Management Plan (SWQMP) (Appendix K). Private development projects are required to implement measures to ensure that pollutant discharges and runoff flows from development are reduced to the maximum extent practicable; and receiving water quality objectives are not violated throughout the life of the Project. The SWQMP includes details of construction and post-construction BMPs to address potential and anticipated water quality impacts. Control measures to reduce the discharge of stormwater pollutants to the maximum extent practicable would include:

- Implementation of site design and source control BMPs
- Inclusion of low-impact development features that conserve natural features, set back development from natural water bodies, minimize imperviousness, maximize infiltration, and retain and slow runoff

- Compliance with requirements for construction-phase controls on sediment and other pollutants
- Outlet protection (e.g., energy dissipaters and velocity dissipation devices)
- Inclusion of infiltration swales where feasible to reduce localized increases in peak runoff

Velocity dissipaters would include lining the outlet of the proposed engineering channels with coarse rocks and boulders, to protect the natural banks from scour and increase the roughness of the channel to slow the velocity of flows exiting the site. In addition, infiltration swales may be installed within certain sub-basins within the Project site to accommodate small, localized increases in peak flow under a 100-year storm event. These measures would be effective at minimizing the potential adverse effects of all Project-related increases in localized peak flow rates (i.e., around the base of solar panels).

As described in more detail in Section 2.7, Hydrology and Water Quality, the Proposed Project would not result in changes to the rate, volume, and location of stormwater runoff, and would avoid the Carrizo Wash and Boundary Creek watercourses that run through the site. The Project would also implement the required Standard SWQMP, SWPPP, and requirements to obtain permits from the ACOE and RWQCB pursuant to the CWA. In addition, with the implementation of mitigation measure **M-HYD-1** (perimeter fencing design), as described in Section 2.7, Hydrology and Water Quality, the exiting drainage patterns of the Project site would be maintained and flood water would be allowed to pass through the Project site unaltered. 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, in a manner which would result in substantial erosion or siltation on or off site.

Because implementation of the operational BMPs per the SWQMP and the construction BMPs per the SWPPP is a condition of the Major Use Permit, and because the drainage study has demonstrated the Proposed Project has been designed to maintain existing drainage patterns (see Appendices I and K), the Proposed Project would not require the construction of new stormwater drainage facilities beyond what is described and included within the Project's SWQMP (Appendix K) and analyzed in Section 2.7, Hydrology and Water Quality. Therefore, the Proposed Project would not require or result in the relocation or construction of new or expanded storm water drainage, the construction or relocation of which could cause significant environmental effects. Impacts would be **less than significant**.

Switchyard

Stormwater runoff from the switchyard site is anticipated to be minimal during construction and operation. The switchyard site would be included as a component of the SWPPP

prepared for the Project site. The SWPPP identifies all BMPs for the construction that would be implemented to minimize disturbance, protect slopes, reduce erosion, and limit or prevent various pollutants from entering surface water runoff. The switchyard site is also included in the grading plans prepared for the larger Project site. The grading plans would also include details on the location and type of BMPs necessary to reduce the potential for Project-induced erosion and scour, including temporary BMPs to be implemented during construction (per the statewide CGP), and permanent BMPs to be installed and maintained (per the County SWQMP). Permanent water quality BMP measures would ensure that the development of the switchyard component will not produce pollutant discharges and runoff flows to the maximum extent practicable. The Proposed Project's SWQMP would include details of construction and post-construction BMPs to address potential and anticipated impacts from stormwater runoff on the switchyard site. Therefore, the switchyard would not require the construction of new stormwater drainage facilities beyond what is described and included within the Project's SWQMP (Appendix K) and analyzed in Section 2.7, Hydrology and Water Quality. Therefore, impacts would be less than significant.

3.1.8.3.2 Solid Waste

Guidelines for the Determination of Significance

The County's Guidelines for Determining Significance do not include significance thresholds or guidance for determining significance for impacts to utilities and service systems. Therefore, for the purpose of this EIR, Appendix G of the CEQA Guidelines applies to the direct and indirect impact analysis, as well as the cumulative impact analysis. A significant impact would result if the project would:

- 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.
- Not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

Analysis

Wastes generated by construction of the Proposed Project would primarily consist of concrete, wood, and scrap metal that would be collected for recycling on the site to the extent possible, and would be sent to off-site recycling facilities where feasible. Total construction waste sent to local landfills is not anticipated to be substantial. Construction wastes could be dispersed among the landfills nearest to the Project site, which have sufficient remaining capacity to meet existing solid waste demands in addition to the waste from construction of the Proposed Project. Minimal wastes would be generated during operation of the facility, as the Project would be an unmanned facility that would be monitored remotely.

During decommissioning of the facility, Project components would be recycled to the extent possible. Therefore, it is anticipated that wastes would be similar to those generated during construction. Though exact landfill capacities at the time of decommissioning cannot be known at this time, it is currently anticipated that approximately 80% of the materials that make up the system, (a combination of aluminum, glass, steel, copper, and concrete), would be recyclable . The remaining materials would be sent to a landfill during decommissioning. Based on the requirement of the Integrated Waste Management Act that the County provide for sufficient solid waste capacity in its landfills for a 15-year period (to be periodically updated), it is anticipated that the local landfills would have capacity to accept the waste from decommissioning activities. Total waste sent to local landfills during construction, operation, and decommissioning of the Proposed Project is not anticipated to be substantial.

Overall, for the reasons stated above, impacts to local solid waste collection, transfer, and disposal capacities as a result of the Proposed Project would be **less than significant.**

Switchyard

Wastes generated by construction of the switchyard would primarily consist of concrete, wood, and scrap metal that would be collected for recycling on the site to the extent possible, and would be sent to off-site recycling facilities where feasible. Total construction waste sent to local landfills would not be substantial. Switchyard construction wastes could be dispersed among the landfills nearest to the Project site, which have sufficient remaining capacity to meet existing solid waste demands in addition to the waste from construction of the Proposed Project. Minimal wastes would be generated during operation of the switchyard, as the switchyard would be an unmanned facility that would be monitored remotely.

Overall, for the reasons stated above, impacts to local solid waste collection, transfer, and disposal capacities as a result of the switchyard would be **less than significant.**

3.1.8.4 Cumulative Impact Analysis

The geographic extent for the analysis of cumulative impacts associated with utilities consists of southeastern San Diego County. This geographic extent is appropriate because utilities are provided by local jurisdictions or districts. Cumulative impact analysis for utilities has been conducted using the projects in Table 1-4 in Chapter 1 of this EIR.

As discussed above, southeastern San Diego County consists of several small rural communities lacking municipal water and sewer utility systems that rely on groundwater for water supply and private septic systems for sewer. So while increased development and population growth can lead to additional funds available to provide additional public services to maintain service ratio

standards, the lack of water and sewer infrastructure in the Proposed Project area severely limits the potential for utilities to be augmented by incremental increases in funding.

3.1.8.4.1 Water

As indicated in Table 1-4, several utility-scale renewable energy projects are proposed for southeast San Diego County, including wind and solar projects, and supporting infrastructure, such as transmission lines and electrical substations as well as some smaller residential and other public facilities projects. Based on foreseeable renewable energy projects, JCSD is proposing to extract up to 290 af of groundwater from the Highland Center and Park Wells for construction of five renewable energy projects. Water demand from all reasonably foreseeable projects includes: 123 af for the Campo Wind Project and 50 af for the Boulder Brush Facilities, 76 af for the Torrey Wind project, 37 af for the Rugged Solar project and 4 af for the Cameron Solar project (all values rounded to the nearest acre-foot) with the operation and maintenance water demand for each project as follows: 7 afy for Torrey Wind, 0.25 afy for Campo Wind and 0.03 afy for Cameron Solar. With many of these projects expected to undergo construction in the next few years, the JCSD will experience increasing demands on groundwater resources, associated in particular with the construction phase of these projects. Certain residential, commercial, and/or institutional projects seeking permits and approvals in the area could also contribute to long-term demands on groundwater resources. Because this area of the County is entirely groundwater-dependent, water systems are limited to private wells for domestic and agricultural purposes, and small community water systems that serve a limited number of customers. As discussed in Section 3.1.8.3.1 above and in Table 3.1.8-5 below, the Proposed Project, along with other proposed project in the cumulative scenario, would not require or result in the construction of new off-site water or wastewater treatment facilities because the Project would be an unmanned facility that would be monitored remotely and water needs will be met through extraction of groundwater from on-site wells. The other renewable energy and transmission projects in the area would employ similar methods for water needs as the Proposed Project and would not likely require new or expanded water or wastewater treatment facilities. The JCSD project to develop a new well at the existing monitoring well site know as Park Well, would results in an additional potable water supply in the Jacumba community and an available increase in JCSD capacity. This well would tap into a different groundwater source than the existing wells intended to be used for the construction and operation supply of cumulative projects.

Therefore, the Proposed Project **would not contribute to a cumulatively considerable impact**.

3.1.8.4.2 Stormwater Drainage Facilities

The Proposed Project includes the development of stormwater drainage facilities, as described in the Project's SWQMP, which would be adequate to serve the Project's increase in peak runoff and

100-year peak flow events. No other cumulative project would drain into the proposed drainage facilities developed for the Proposed Project, and each cumulative project would address stormwater flows on a site-by-site basis. The Proposed Project, along with other projects occurring in the area, would be required to comply with applicable federal, state, and local water quality and stormwater drainage regulations (see Section 2.7, Hydrology and Water Quality). The Proposed Project would not require or result in the construction of new or additional stormwater drainage facilities beyond what is included as part of development of the Project. As such, the Proposed Project would not cumulatively contribute to a significant cumulative impact regarding the construction of new stormwater drainage facilities.

Therefore, the Proposed Project **would not contribute to a cumulatively considerable impact**.

3.1.8.4.3 Wastewater Treatment

As discussed above, the Proposed Project would not include an on-site private septic system to treat wastewater. The Project would be an unmanned facility that would be monitored remotely. Therefore, the Proposed Project would **not contribute to a cumulatively considerable impact relative to wastewater treatment systems.**

3.1.8.4.4 Solid Waste

As discussed above, construction of the Proposed Project would generate construction wastes that would be recycled to the extent possible. The waste generated by construction that would be sent to local landfills is not anticipated to overwhelm the remaining capacity of local landfill facilities such that these facilities would not be able to serve existing demand. Area landfills have sufficient capacity to accommodate the minor volume of waste expected to be generated during operation of the Proposed Project. Therefore, the Proposed Project **would not contribute to a cumulatively considerable impact.**

Although exact volumes are unknown, construction of reasonably foreseeable projects in the area would generate wastes which would be transported to a landfill for disposal. Each cumulative project would comply with the County of San Diego's Construction and Demolition Materials Ordinances as applicable. The same landfills used during construction and operation of the Proposed Project would likely be used by waste haulers to dispose of wastes generated in the Project area by reasonably foreseeable cumulative projects. However, due to the temporary nature of construction and due to the remaining capacities of area landfills as discussed above (the Sycamore and Otay Landfills have a combined remaining capacity of over 135 million cubic yards (CalRecycle 2016a, 2016b)), and because construction of all reasonably foreseeable cumulative projects would not necessarily occur concurrently with the construction of the Proposed Project, local and regional landfills and waste haulers are anticipated to have sufficient

remaining capacity to serve all reasonably foreseeable cumulative projects. Therefore, the Proposed Project **would not contribute to a cumulatively considerable impact** relative to solid waste collection, transfer, and disposal capacities during construction.

3.1.8.5 Significance of Impacts Prior to Mitigation

The Proposed Project's impacts, including cumulative impacts, to utilities and service systems, including water, wastewater treatment or stormwater drainage, electric power, natural gas, and telecommunications facilities, and solid waste hauling and disposal would be **less than significant.**

3.1.8.6 Mitigation Measures and Design Considerations

No mitigation measures related to utilities and service systems are necessary.

3.1.8.7 Conclusion

The Proposed Project's impacts, including cumulative impacts, to utilities and service systems, including water, wastewater treatment or stormwater drainage, electric power, natural gas, and telecommunications facilities, and solid waste hauling and disposal would be less than significant.

Table 3.1.8-1
Estimated Construction Water Demand

Activity	Description	Total Estimated Water Demand (af)[1]
Site preparation (clearing, grubbing, grinding, and dust control)	Limited clearing and grubbing will be required for fallowed agricultural land at Jacumba Valley Ranch. Assume pre-weeding od soils with 1-inch of water over 570.5 acres	48
Grading	Grading of 264,000 cubic yards. Uses estimated of on-site moisture and optimum soil of moisture to gain compaction to determine required input of water	39
Concrete	Estimated based on 65 enclosures with concrete pads measuring 14 feet by 44 feet by 1 foot. One substation pad measuring 110 feet by 215 feet by 1.5 feet. Assumes concrete free installation of beams driven into the soil using a pile/vibratory/rotary driving technique. +100% contingency added for uncertainty. Additional 15% added for additional concrete use for fence posts, lighting posts etc.	1
Dust Abatement[2]	Value used from Jacumba Solar Construction Estimate: (6) 3,000-gallon water trucks per day	37
Other construction needs	Water necessary for other construction needs, such as filling tanks for fire protection; washing stations for vehicles/equipment (noxious weed mitigation); the 1,500-foot gen-tie line; and hydroseeding	15
	Total Construction Water Use	**140**

Source: Appendix J

1. 1 acre-foot equals 325,851 gallons.
2. Dust abatement is included in the estimate for initial site preparation (first 40 days); therefore, general dust abatement was assumed to occur over 104 days (i.e., the remainder of the construction phase).

Table 3.1.8-2
Estimated Operational Water Demand

Activity	Estimated Water Demand (af)
Panel washing (up to 4 times per year)	2.6
Landscape buffer	8.4
Total Water Use per Year	**11**

Source: Appendix J

Table 3.1.8-3
Estimated Decommission and Dismantling Water Demand

Activity	Estimated Water Demand (af)
Decommissioning Dust Abatement	40
Equipment Washing and Compaction	10
Total Water Use per Year	**50**

Source: Appendix J

Table 3.1.8-4
Jacumba Valley Alluvial Aquifer Existing Water Demands Outside of Proposed Project

Groundwater Extraction Sources	Wells Names	Total Water Demand (afy)
Jacumba Valley Ranch Water Co.	Well KM	5[a]
Jacumba Community Services District (potable)	Well 4	119.5[b]
Jacumba Community Services District (non-potable)	Highland Center Well, Park Well	53.6[c]
Potential Domestic Wells	Private Domestic Wells	3[d]
	Total Water Demand	181.1

Source: Appendix J

a. Jacumba Valley Ranch Water Company has seven connections: three ranch homes, two gas stations, and two fire hydrants. No water demand was assigned to the fire hydrants. Water demand is estimated at approximately 1 acre-foot per connection.
b. Estimated based on 0.5 afy for 239 potable Jacumba Community Services District connections.
c. Maximum demand based on meter reads from February 2017 to February 2018.
d. Not all domestic wells are currently active or known; however, a consumptive water demand of 0.5 afy has been assigned to up to six potential domestic wells

Table 3.1.8-5
Estimated Jacumba Valley Alluvial Aquifer Groundwater Demand

Land Use	Historical Water Demand (afy)	Current Water Demand (afy)	Future Demand During Project Construction (afy)	Future Ongoing Project Water Demand (afy)	Future Maximum Demand (af)
Project site (Jacumba Valley Ranch; Bornt Farms)	2,066; 741-995	0	140	11	140
Jacumba Valley Ranch Water Company	242	5	5	5	5
Private domestic[a]	3	3	3	3	3
JCSD (potable)	80-146[b]	119.5	0[c]	0[c]	0
JCSD (non-potable)	53.6	4[d]	4 (ongoing)[d] 290 (one-time use)[e]	4 (ongoing)[d] 7.3 (future O&M)	294[e]
Total water estimated Demand	**2,212[f]**	**131.5**	**302**	**19.3**	**302**
Total water estimated demand with Project	**2,212[f]**	**131.5**	**442**	**30.3**	**442**

Source: Appendix J
Notes: afy = acre-feet per year; JCSD = Jacumba Community Services District.

[a] Not all domestic wells are currently active or known; however, a consumptive water demand of 0.5 afy has been assigned to up to six potential domestic wells.
[b] JCSD #1 and #2 supplied all potable demands for the community of Jacumba Hot Springs until JCSD Wells #3 and #4 were drilled in the early 1970s. As of March 2020, JCSD is no longer pumping water for potable supply from the alluvial aquifer.
[c] Future JCSD potable water demand will be supplied from Wells #7 and #8, completed in the fractured rock aquifer.
[d] Assumes current groundwater demand based on Dudek metered data from 2018.
e Water demand from all reasonably foreseeable project includes: 50-af for Boulder Brush, 76 af for Torrey Wind, 123 af for Campo Wind, 37 af for Rugged Solar and 4 af for Cameron Solar (all values rounded to the nearest acre-foot). O&M water demand is 7 afy for Torrey Wind, 0.25 afy for Campo Wind and 0.03 afy for Cameron Solar.
f Assumes maximum concurrent water demand from JCSD potable demand and Jacumba Valley Ranch.

Table 3.1.8-6
Jacumba Valley Alluvial Aquifer Groundwater in Storage Estimate

Alluvial Aquifer Compartments*	Area (acres)	Leighton Alluvial Thickness (1991) (feet)	Average Alluvial Thickness (feet)	Depth to Water 2018 (feet below ground surface)	Average Saturated Thickness (feet)	Specific Yield (unitless)	Storage (af)
A	240.94	50+	37.5	35.14	2.36	0.10	56.86
B	104.70	50+	50	35.14	14.86	0.10	155.58
C	439.40	120+	81.75	43.5	38.25	0.10	1,680.71
D	1,082.73	100+	117	57.87	59.13	0.10	6,402.18
E	193.61	80+	95.0	58.36	36.64	0.10	709.39
Total Groundwater in Storage (rounded af)							**9,005**

* **Compartment Details:**
A Aquifer thickness estimated from an average alluvial thickness observed in well log Lwel 6933 and B-12 (Leighton 1991a). Depth to water extrapolated from Well #3 (Lwel 16419)
B Aquifer thickness defined by Leighton 1991a. Depth to water extrapolated from Well #3 (Lwel 16419)
C Aquifer thickness estimated from Well #3 (Lwel 16419), Well #2 (Lwel 1814), Test Hole (L well 20450), and Leighton B-7 (Leighton 1991a). Depth to water averaged from Well #3 (Lwel 16419) and Well #2 (Lwel 1814).
D Aquifer thickness estimated from Well J2 (Swenson 1981), Test Holes (Lwell 17922 and 201411), and the Southwest Irrigation Well (Lwell 18031). Depth to water estimated from Well #1.
E Aquifer thickness estimated from the Highland Center Well (Lwell 001506), and Wells J3 and J4 (Swenson 1981). Depth to water estimated from an average of the Highland Center Well (Lwel 001506) and the Park Well.

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