3.1.4 Hydrology and Water Quality

This section discusses potential impacts to hydrology, water quality, and groundwater resources resulting from the implementation of the Proposed 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, which are 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).

- Preliminary Hydrology and Drainage Study (Appendix 3.1.4-1) Jacumba Solar Energy Project
- Minor Stormwater Management Plan (Appendix 3.1.4-2), Jacumba Solar Energy Project
- Groundwater Resources Investigation Report, Jacumba Solar Energy Project (Appendix 3.1.4-3)
- Supplemental Groundwater Resources Investigation Report, JCSD New Well Project (Appendix 3.1.4-4)

~~In addition, the Jacumba Solar Energy Project Water Supply Evaluation dated January 2015 is incorporated by reference in its entirety herein.~~

Comments received in response to the Notice of Preparation (NOP) included concerns regarding use of and impacts to local groundwater, groundwater in Imperial County, and the volume of water required as well as the source for that 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 1-1 of this environmental impact report (EIR).

3.1.4.1 Existing Conditions

This section describes the existing setting in the Proposed Project area and identifies the resources that could be affected by the Proposed Project. The scope of the hydrologic setting reflects the significance thresholds contained in the County's Hydrology, Surface Water Quality, and Groundwater Resources Guidelines (County of San Diego 2007a, 2007b, 2007c), which address issues such as surface and groundwater quality, stormwater drainage, and groundwater resources. Information in this section is derived from a variety of sources, including maps and surveys from the U.S. Geological Survey, the U.S. Department of Agriculture, the County

General Plan (County of San Diego 2011), the aforementioned County significance guidelines, and the previously listed Project-specific technical reports.

Regional Climate

The Project area 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), while dropping into the high-60s (degrees Fahrenheit) in the fall months. Temperatures may fall below freezing in the winter, with snow levels occasionally below 2,500 feet. According to historical precipitation data recorded from 1963 to 2011 from the Jacumba rain gauge, the average annual precipitation is approximately 9.64 inches per year, with 85% of precipitation occurring between October and April (Allan 2013). Annual precipitation totals at the Jacumba rain gauge varies significantly from year to year. Most rain is stratiform (i.e., caused by frontal systems) in the local region with some orographic enhancement of precipitation occurring due to higher elevation of the area relative to the coast. Thunderstorms occurring in the summer months usually contribute only a small portion of yearly precipitation totals, but can often result in highly localized variability in rainfall depending on the exact location, coverage, and intensity of thunderstorm cells.

Regional Hydrology and Drainage

The Proposed Project is located within the Jacumba Valley watershed, which covers a 119–square-mile area with 70% of the watershed located in the state of Baja California, Mexico (Swenson 1981). The United States side of the watershed is located within the Jacumba Valley Hydrologic Subarea (HSA; 722.72), Jacumba Hydrologic Area (722.70), all within the Anza Borrego Hydrologic Unit (HU; 722.00) (Figure 3.1.4-1). The Proposed Project is located to the east of the Jacumba Valley on a relatively flat terrain with a slight slope to the west and south.

The region is relatively arid, and surface waters are dominated by ephemeral drainages that convey runoff during and/or shortly after rain events—there are no permanent bodies of water in or near the Project site. The site has a general east–west ground slope of 4% to 5%, while the adjacent mountains have slopes in excess of 30% (Wallace Group 2011). The general direction of surface water flow in the southwestern portion of the development footprint is to the south across the international border, and is characterized by shallow channelized flow. The northern terminus of an unnamed ephemeral channel extends about 300 feet into the southwestern Project boundary. For the remainder of the site, surface water generally flows east to west via shallow sheet flow to an unnamed ephemeral drainage channel that bisects the site. Both unnamed ephemeral creek channels that are mapped on site eventually terminate in the southern and eastern portions of the Jacumba Valley.

According to the preliminary hydrology and drainage study of the Project site prepared by Dudek (2014; see Appendix 3.1.4-1), there are approximately 10 separate basins across the site, each of which drain relatively small areas; collectively, these watersheds are less than a square mile. Water flows within these basins are limited to during and immediately after significant rain events. Stormwater flows through the Project site are likely to terminate in or around the Jacumba Valley while evaporating and/or percolating into the ground. There are no U.S. Geological Survey-mapped creek channels within the Jacumba Valley that connect directly to the northerly draining Carrizo Gorge. However, it is presumed that the valley is hydrologically connected to the northerly-draining Carrizo Wash, most likely during peak flow events. The Carrizo Wash eventually meets dry desert flatlands approximately 17 miles to the north, and water within the wash (if present) slows down, spreads out, and evaporates or infiltrates into the soil.

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).[1] The beneficial uses provide the basis for determining appropriate water quality objectives that are needed to maintain the beneficial uses of these water bodies and are discussed further under Section 3.1.4.2, Regulatory Setting. The beneficial uses for water bodies affected by the Proposed Project are shown in Table 3.1.4-1, Beneficial Uses of Waters within the Study Area, and definitions are provided in Table 3.1.4-2, Definitions of Beneficial Uses of Surface Waters. 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 2010). The closest impaired water bodies in the Proposed Project area are the Salton Sea and the Imperial Valley drains, all of which are located over 25 miles from the Proposed Project. CWA Section 303(d) impairments associated with the Salton Sea include arsenic, selenium, nutrients, salinity, chlorpyrifos, DDT, and enterococcus. These are impairments typically associated with agricultural activities, ranching, and/or surface mining (SWRCB 2010). The Project is not in a

[1] The Basin Plan for each region is the master water quality control planning document. It designates beneficial uses and water quality objectives for waters in the state in each region (Colorado River RWQCB 2006).

watershed with a high receiving water risk,[2] as defined in the Construction General Permit (CGP) Guidance (SWRCB n.d.).

Groundwater Resources

The Proposed Project lies outside of the San Diego County Water Authority in a region consisting of small communities, large-lot rural residences, tribal lands, and public open space (e.g., Bureau of Land Management and U.S. Forest Service). Water service in the region consists exclusively of groundwater wells—either private, tribal, state, federal, or part of small community water districts. Groundwater is the primary source of water supply for land uses in the Proposed Project area, and most rural residences rely entirely on groundwater wells for their source of water. According to a County database of groundwater well permits, the closest active domestic groundwater well is located 1.4 miles west of the Proposed Project, and the closest domestic well (whose permit status is expired) is located 0.7 mile to the north. The Project is not within a Department of Water Resources-defined groundwater basin—the closest Department of Water Resources groundwater basin is the Jacumba Valley Groundwater Basin, located approximately 0.5 mile west of the Project. According to the Phase I Environmental Site Assessment and Geotechnical Engineering Investigation prepared by Krazan and Associates Inc. (Appendix 2.4 -1, Krazan 2011), no existing water wells were identified on the Project site.

The hydrogeology of the Jacumba Valley, located roughly 2.5 miles west of the Project site, has been previously studied by Swenson (1981), Roff and Franzone (1994) and the Jacumba Community Services District (JCSD). The lithology of the Jacumba Valley is complex and composed of crystalline bedrock, volcanics, sandstone, and alluvial sediments. The thickness of the alluvium underlying the Proposed Project is thin, with most of the site covered with 2 to 4 feet of alluvium. Geotechnical exploration of the Project site encountered thicker accumulations of alluvium of up to 20 feet in depth on the southern edge of the Project boundary (Krazan 2011). During geotechnical drilling on the site, Krazan reported that sandstone was encountered underlying the alluvium however no boreholes were advanced past 20 feet. Geologic cross sections for the Jacumba Valley indicate that granitic bedrock underlies the sandstone formation. No groundwater was encountered in the alluvium and sandstone by geotechnical borings drilled on-site to a maximum depth of 20 feet. Furthermore, Krazan (2011) indicates that based on information obtained from the Department of Water Resources, groundwater in monitoring wells located southwest of the site has been encountered at depth from 75 to 80 feet below the ground surface (Krazan 2011). Groundwater was also not encountered to a depth of 50 feet during the

[2] High Receiving Water Risk Watersheds are watersheds that drain either directly or indirectly to water bodies that are either (1) 303(d) listed as being impaired for sediment/siltation, (2) have a U.S. Environmental Protection Agency (EPA)-approved, sediment-related total maximum daily load (TMDL), or (3) have the existing beneficial uses of SPAWN (Fish Spawning), MIG (Fish Migration), and COLD (Cold Water Habitat) according to the most recent applicable RWQCB Basin Plan.

preliminary geotechnical investigation for San Diego Gas & Electric's (SDG&E's) East County (ECO) Substation, located immediately east of the Project site (URS 2011).

Groundwater Quality

Groundwater quality in the fractured rock aquifers of San Diego County has not been as extensively studied as the unconfined alluvial aquifers. 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 Department of Water Resources. Of California's approximately 16,000 public-supply wells, 80% are in groundwater basins designated by the Department of Water Resources and characterized as unconfined alluvial aquifers (USGS 2011). Information on groundwater quality within fractured rock aquifers is scarce and/or not publicly available. 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).

Flood Hazards

The entire area is identified by the Federal Emergency Management Agency (FEMA) as being within Zone D (SanGIS 2012), which indicates that flood risk is undetermined because the agency has not conducted a flood hazard analysis. The site is not downstream of a dam and thus would not be subject to inundation in the event of a dam failure; nor is the site subject to seiche or tsunami (due to the great distance to the ocean or large body of water). In addition, the site is not within any County-identified flood hazard areas (e.g., alluvial fan flooding area) (County of San Diego 2007a). The preliminary hydrology and drainage study of the Project site prepared by Dudek (2014; see Appendix 3.1.4-1) has estimated peak flows on the site for the 10-year and 100-year storm to be approximately 267 cubic feet per second (cfs) and approximately 434 cfs, respectively.

3.1.4.2 Regulatory Setting

Federal and State Water Quality Regulations

The statutes that govern the activities under the Project that may affect water quality are the federal CWA (33 U.S.C. 1251 et seq.) and the Porter-Cologne Water Quality Control Act (Porter-Cologne 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 State Water Resources Control Board (SWRCB) and its nine RWQCBs. The SWRCB provides state-level coordination of the water quality control program by establishing statewide policies and plans for the

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 plan (California Water Code, Sections 13240–13247). The Proposed Project area is located within the jurisdiction of the Colorado River RWQCB.

Beneficial Use and Water Quality Objectives (CWA Section 303)

The Colorado River RWQCB is responsible for the protection of the beneficial uses of waters within the Proposed Project area of eastern San Diego County. The RWQCB uses its planning, permitting, and enforcement authority to meet its responsibilities adopted in the Basin Plan to implement plans, policies, and provisions for water quality management.

In accordance with state policy for water quality control, the RWQCB employs a range of beneficial use definitions for surface waters, groundwater basins, marshes, and mudflats that serve as the basis for establishing water quality objectives and discharge conditions and prohibitions. The Basin Plan for Colorado River region has identified existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdiction. The existing and potential beneficial uses designated in the Basin Plan for the surface water bodies in or downstream from the Project area are identified in Table 3.1.4-1. The existing uses of groundwater in the vicinity of the Proposed Project area, which includes the Anza-Borrego Hydrologic Unit, include: municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); Groundwater Recharge (GWR); Water Contact Recreation (REC-1); Non-Water Contact Recreation (REC-2); Warm Freshwater Habitat (WARM); Wildlife Habitat (WILD); and Rare, Threatened, or Endangered Species (RARE) (San Diego RWQCB 2011; Colorado River RWQCB 2006). These uses are defined in Table 3.1.4-2. The Basin Plan 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 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 impaired waters within or near the Project vicinity, although surface waters would eventually discharge indirectly to the Salton Sea, which has several identified impairments. CWA Section 303(d) impairments associated with the Salton Sea include arsenic, selenium, nutrients, salinity, chlorpyrifos, DDT, and enterococcus; these are impairments

typically associated with agricultural activities, ranching, and/or surface mining (SWRCB 2010). A total maximum daily load (TMDL) defines how much of a specific pollutant/stressor a given water body can tolerate and still meet relevant water quality standards. No TMDLs have been established for the aforementioned pollutants/stressors (SWRCB 2010).

Water Quality Certification (CWA Section 401)

Section 401 of the CWA requires that an applicant for any federal permit (e.g., a U.S. Army Corps of Engineers (ACOE) Section 404 permit) obtain certification from the state that the discharge would comply with other provisions of the CWA and with state water quality standards. For example, an applicant for a permit under Section 404 of the CWA must also obtain water quality certification per Section 401 of the CWA. Section 404 of the CWA requires a permit from the ACOE prior to discharging dredged or fill material into waters of the United States, unless such a discharge is exempt from CWA Section 404. For the Project area, the Colorado River RWQCB must provide the water quality certification required under Section 401 of the CWA. As discussed in Section 2.3, Biological Resources, an ACOE Section 404 permit is expected to be required for the Proposed Project site. Water quality certification under Section 401 of the CWA, and the associated requirements and terms, is required in order to minimize or eliminate the potential water quality impacts associated with the action(s) requiring a federal permit.

National Pollutant Discharge Elimination System Program (CWA Section 402)

The CWA was amended in 1972 to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the CWA added Section 402(p), which establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES Program. In November 1990, the EPA published final regulations that also establish stormwater permit application requirements for discharges of stormwater to waters of the United States from construction projects that encompass 5.0 or more acres of soil disturbance. Regulations (Phase II Rule) that became final on December 8, 1999, expanded the existing NPDES Program to address stormwater discharges from construction sites that disturb land equal to or greater than 1.0 acre and less than 5.0 acres (small construction activity). The regulations also require that stormwater discharges from small municipal separate storm sewer systems (MS4s) be regulated by an NPDES permit.

Construction General Permit (SWRCB Order 2009-0009-DWQ, as amended by Order 2010-0014-DWQ). 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.[3] The CGP applies to all projects where construction activity disturbs 1.0 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 best management practices (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).

The Colorado River RWQCB has permitting authority over the Proposed Project site. Because the Colorado RWQCB has not adopted a municipal permit for the Project area, the Proposed Project will be subject to the Post Construction Standards in the CGP, as well as the County of San Diego's Jurisdictional Urban Runoff Management Plan.

In either case, dischargers are required to submit a Notice of Intent (NOI) in order to obtain coverage under the CGP, at the discretion of the SWRCB and the applicable RWQCB. Dischargers are responsible for notifying the relevant RWQCB of violations or incidents of non-compliance, as well as for submitting annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected.

The CGP requires a risk-based permitting approach, dependent upon the likely level of risk imparted by a project. To ensure compliance and protection of water quality, the permit implements monitoring, reporting, and training requirements for management of potential stormwater pollutants. The permit contains several compliance items, including: (1) mandatory BMPs to reduce erosion and sedimentation, which may include incorporation of vegetated swales, setbacks and buffers, rooftop and impervious surface disconnection, bioretention cells, rain gardens, rain cisterns, implementation of pollution/sediment/spill control plans, training, and other structural and nonstructural actions; (2) sampling and monitoring for non-visible pollutants; (3) effluent monitoring and annual compliance reports; (4) development and adherence to a Rain Event Action Plan; (5) requirements for the post-construction period; (6) numeric action levels and effluent limits for pH and turbidity; (7) monitoring of soil characteristics on site; and (8) mandatory training under a specific curriculum.

[3] SWRCB Order 2009-0009-DWQ (as amended by SWRCB Order 2010-0014-DWQ), NPDES Permit No. CAS000002, National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities.

The Proposed Project would disturb more than 1.0 acre of soil and would thus be subject to the provisions and requirements of the CGP. The applicant would submit an NOI to the SWRCB and obtain coverage under, and comply with, the CGP. As summarized previously, the preparation of a SWPPP would be required in accordance with the CGP. The SWPPP would include, but not be limited to, relevant measures, conditions, and obligations which would reduce or eliminate the impacts of construction activities on stormwater and receiving water quality and quantity. The CGP also contains requirements for the post-construction period. The Proposed Project will need to obtain approval for their post construction plans from both the County and the Colorado RWQCB.

NPDES Permit for Discharges from the Municipal Separate Storm Sewer Systems Draining the Watersheds within the San Diego Region (Order R9-2013-0001). This MS4 permit is not applicable to the Project because its scope is limited to the watersheds that drain to the coast within the San Diego RWQCB. The Project is within the watershed of the Salton Sea and is in the Colorado River RWQCB, which does not have an equivalent MS4 permit that covers the Project area.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act (codified in the California Water Code, Section 13000 et seq.) is the basic water quality control law for California. As mentioned above, it is implemented by the SWRCB and the nine RWQCBs. The SWRCB establishes statewide policy for water quality control and provides oversight of the RWQCBs' operations. In addition to other regulatory responsibilities, the RWQCBs have the authority to conduct, order, and oversee investigation and cleanup where discharges or threatened discharges of waste to waters of the state could cause pollution or nuisance, including impacts to public health and the environment. Evident from the preceding regulatory discussion, the Porter-Cologne Act and the CWA overlap in many respects, as the entities established by the Porter-Cologne Act are, in many cases, enforcing and implementing federal laws and policies. However, there are some regulatory tools that are unique to the Porter-Cologne Act, as described below.

Dredge/Fill Activities and Waste Discharge Requirements. Actions that involve, or are expected to involve, discharge of waste are subject to water quality certification under Section 401 of the CWA (e.g., if a federal permit is being sought or granted) and/or waste discharge requirements (WDRs) under the Porter-Cologne Act. Chapter 4, Article 4 of the Porter-Cologne Act (California Water Code, Sections 13260–13274), states that persons discharging or proposing to discharge waste that could affect the quality of waters of the state (other than into a community sewer system) shall file a Report of Waste Discharge with the applicable RWQCB. For discharges directly to surface water (waters of the United States), an NPDES permit is required, which is issued under both state and federal law; for other types of discharges, such as

waste discharges to land (e.g., spoils disposal and storage), erosion from soil disturbance, or discharges to waters of the state (such as isolated wetlands), WDRs are required and are issued exclusively under state law. WDRs typically require many of the same BMPs and pollution control technologies as required by NPDES-derived permits. Further, the WDRs' application process is generally the same as for CWA Section 401 water quality certification, though in this case it does not matter whether the particular project is subject to federal regulation.

General WDRs for Discharges to Land with a Low Threat to Water Quality in the Colorado RWQCB Region. In SWRCB Order 2003-0003-DWQ, the SWRCB adopted General Waste Discharge Requirements (General WDRs) for discharges to land that are considered to be a low threat to water quality and are of low volume with minimal pollutant concentrations. All WDRs must implement the Basin Plan and require dischargers (e.g., the applicant) to comply with all applicable Basin Plan provisions and water quality objectives. The General WDRs establish minimum standards and monitoring requirements with respect to a few specific categories of discharge, including boring waste discharge, small dewatering projects (e.g., temporary dewatering during construction excavation activity), and miscellaneous discharges such as small, inert solid waste disposal operations.

As discussed in the environmental setting, the Proposed Project is unlikely to encounter shallow groundwater. However, the actual presence or absence of shallow groundwater is dependent on local geologic and climatic conditions, and thus it is possible that locally perched groundwater could be encountered. In this case, any dewatering activity that would discharge to the land surface would need to comply with the provisions of these General WDRs (or, alternatively, the applicant and/or its contractor would need to obtain an individual WDR). Accordingly, to obtain coverage under these General WDRs and ensure compliance with the applicable Basin Plan, the applicant and/or its contractor would submit the following to the RWQCB: an NOI to comply with these General WDRs, which include, but may not be limited to a project map, evidence of California Environmental Quality Act (CEQA) compliance, the requisite fee, a discharge monitoring plan, and any additional information requested by the applicable RWQCB. RWQCB staff would determine whether coverage under the applicable General WDRs is appropriate and, if so, would notify the applicant by letter of coverage. In the event of any conflict between the provisions of the General WDRs and the Basin Plan, the more stringent provision would prevail.

State Maximum Contaminant Levels

As part of the California Safe Drinking Water Act, the State Department of Health Services sets primary and secondary standards for drinking water supplies. Maximum contaminant levels (MCLs) set by the Department of Health Services are either as stringent or more stringent than federal MCLs.

CCR Title 22 Standards for the Use of Recycled Water

Title 22 contains standards for the use of recycled water for general construction purposes as detailed in Chapter 3, Article 3, Section 60307—Use of Recycled Water for Other Purposes. Recycled water used for soil compaction, mixing concrete, and/or dust control on roads and streets provided the water meets at least disinfected secondary-23 recycled water standards. Disinfected secondary-23 recycled water means recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number of 23 per 100 milliliters using the bacteriological results of the last 7 days for which analyses have been completed, and the number of total coliform bacteria does not exceed an most probable number of 240 per 100 milliliters in more than one sample in any 30-day period.

In addition, Chapter 3, Article 4, Section 60310—Use Area Requirements, states that no irrigation with, or impoundment of, disinfected secondary-2.2 or disinfected secondary-23 recycled water shall take place within 100 feet of any domestic water supply well and that any use of recycled water shall comply with the following: (1) any irrigation runoff shall be confined to the recycled water use area, unless the runoff does not pose a public health threat and is authorized by the regulatory agency; (2) spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities; and (3) drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff.

JCSD's use of the wells and the potential development and use of replacement well(s) as a secondary source of groundwater to serve JCSD customers is per CCR, Title 22, Section 60101 Specific Activities within Categorical Exemption Classes (Class 1), water wells of substantially the same capacity are CEQA exempt.

Local Plans, Policies and Regulations

The following local/regional regulations pertaining to hydrology and water quality would apply to the Proposed Project.

County of San Diego Code of Regulatory Ordinances Sections 67.801–67.814, Watershed Protection, Stormwater Management, and Discharge Control Ordinance

The County's Watershed Protection, Stormwater Management, and Discharge Control Ordinance (WPO) was adopted in March 2008 and revised in January 2010. The purpose of the WPO is to protect water resources and improve water quality by controlling the non-stormwater conveyance system and receiving waters, to cause the use of management practices by the County and its citizens that would reduce the adverse effects of polluted run-off discharges on waters of the state, to secure benefits from the use of stormwater as a resource, and to ensure the County is

compliant with state and federal law. The WPO establishes standards and requirements that are legally enforceable by the County within the County's jurisdiction. Projects that require a permit (e.g., administrative permit, major use permit, grading permit) are required to demonstrate compliance with the WPO. Section 67.804, for example, specifically addresses waste discharge and prohibits the discharge of pollutants to the stormwater system unless they are permitted through the NPDES program. Section 67.804 identifies minimum required construction and post-construction water quality BMPs applicable to all dischargers.

San Diego Standard Urban Stormwater Mitigation Plan for Land Development and Public Improvement Projects

The County's Standard Urban Stormwater Mitigation Plan (SUSMP) is intended to help implement one part of the County's Stormwater Program. The SUSMP only addresses land development and capital improvement projects. It is focused on project design requirements and related post-construction requirements, not on the construction process itself. The Project's compliance with the CGP will require preparation of a SWPPP and implementation of construction-specific BMPs, as described under Construction General Permit (SWRCB Order 2009-0009-DWQ, as amended by Order 2010-0014-DWQ).

The Proposed Project 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 based on the priority development project determination criteria and stormwater intake form in the SUSMP. Although the bulk of the SUSMP is devoted to requirements applicable to priority development projects, it also includes requirements for all land development projects regardless of status, including:

- Implementation of source control BMPs as listed in Appendix E of the SUSMP
- Inclusion of some low impact development (LID) 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

The County uses a stormwater intake form to determine a project's status, and requires land development projects that are not priority development projects to complete a Minor SWMP identifying how the project intends to comply with the WPO. This includes identification of the type and location of BMPs and LID methods to be implemented.

County of San Diego Grading Ordinance

The County Code Title 8, Division 7, Excavation and Grading, Clearing and Watercourses,4 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 (see Section 1.5.1, Project Approvals/Permits). Grading permits are discretionary and require compliance with CEQA. Additional information specific to grading permit requirements is discussed in Section 3.1.2, Geology, Soils, and Seismicity.

Chapter 6 of the ordinance exists to protect persons and property against flood hazards by prohibiting the alteration of the surface of land so as 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 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 shall not approve the grading plans or improvement plans unless he or she determines that the proposed grading does not create an unreasonable hazard of flood or inundation to persons or property. Even though the Project site is not within an identified flood hazard area, as defined by either FEMA or the County, the provisions of this ordinance would apply to the Proposed Project because they would result in land alteration and construction of structures within a watercourse as defined in the ordinance.

County of San Diego Groundwater Ordinance

The County adopted the San Diego County Groundwater Ordinance in 1991; it was last amended in 2013. The ordinance establishes regulations for the protection, preservation, and maintenance of groundwater resources. The purpose of the ordinance is to ensure that development would not occur in groundwater-dependent areas of the County unless adequate supplies are available to serve both existing and proposed uses (County of San Diego 2013). Section 67.722 (All Other Projects) regulates all areas within the County outside Borrego Valley and any future groundwater impacted basins. For discretionary permit applications, the following findings must be made: (1) For projects using greater than 20 acre-feet per year or 20,000 gallons per day, that groundwater resources are 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 are adequate to meet the groundwater demands of the project.

[4] The ordinance defines a watercourse as any surface water body (including any arroyo, canal, channel, conduit, creek, culvert, ditch, drain, gully, ravine, reservoir, river, stream, wash, waterway, or wetland), in which waters from a tributary drainage area of 100 acres or larger flow in a definite direction or course, either continuously or intermittently, and any area adjacent thereto which is subject to inundation from a 100-year flood.

San Diego County 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.

Land Use Element

The Land Use Element includes a requirement to encourage sustainable use of groundwater and properly manage groundwater recharge areas (LU-8). Specifically, Goal LU-8 includes the following policies:

- **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 areas dependent 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.

Conservation and Open Space Element

The Conservation Element identifies and describes the natural resources of the County of San Diego and includes policies and action programs to conserve those resources. The Conservation and Open Space Element identifies policies necessary to achieve (a) long-term viability of the County's water quality and supply through a balanced and regionally integrated water management approach (Goal COS-4), and (b) protection and maintenance of local reservoirs, watersheds, aquifer-recharge areas, and natural drainage systems to maintain high-quality water resources (Goal COS-5).

Safety Element

The Public Safety Element was developed to introduce safety considerations into the planning and decision-making processes in order to reduce the risk of injury, loss of life, and property damage associated with the hazards identified in the element. The Safety Element identifies policies necessary to (a) minimize personal injury and property damage losses resulting from

flood events (Goal S-9), and (b) ensure that floodways and floodplains that have acceptable capacity to accommodate flood events (Goal S-10). These goals are achieved through policies encouraging the improvement and development of floodplain maps, regulating the types of development that can occur in floodplains, and ensuring that development outside of floodplains employ proper stormwater design and management practices necessary to increase the volume of stormwater entering waterways. The element also proposes policies and recommendations aimed at hazard mitigation, disaster preparedness, and emergency response. Chapter 3 of the element, Geologic Hazards, addresses non-seismic hazards, specifically slope instability/erosion and landslides, which can cause flooding.

3.1.4.3 Analysis of Project Effects and Determination as to Significance

The Proposed Project consists of a renewable energy solar project in southeastern San Diego County. For the purposes of this EIR, the Proposed Project is analyzed at a project level to discuss potential impacts as determined in the Initial Study.

3.1.4.3.1 Hydrology and Drainage Patterns

Guidelines for the Determination of Significance

For the purpose of this EIR, the County's Hydrology Guidelines (County of San Diego 2007a) apply to both the direct impact analysis and the cumulative impact analysis. These significance guidelines have been developed by the County to address questions (c), (d), and (e) in the CEQA Guidelines, Appendix G (14 CCR 15000 et seq.). A significant impact would result if:

- The project would increase water surface elevation in a watercourse within a watershed equal or greater than 1 square mile, by 1 foot or more in height and in the case of the San Luis Rey River, San Dieguito River, San Diego River, Sweetwater River, and Otay River, 2/10 of a foot or more in height.
- The project would result in increased velocities and peak flow rates exiting the project site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site.
- The project would 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.

Analysis

As shown in Table 4 of the hydrology and drainage study (Appendix 3.1.4-1), the total watershed area contributing to the Proposed Project is 555 acres (0.87 square mile) in size. The study identified 12 basins crossing the Project site. There are two watercourses—defined by the

County grading ordinance as waters with tributary areas greater than 100 acres in size—crossing the site from east to west. These watercourses have watersheds that are 331 acres (0.52 square mile) and 124 acres (0.19 square mile) in size, respectively. The remainder of the subwatersheds are all smaller than 100 acres, which is generally too small to support the development of clearly defined drainage channels. Stormwater runoff in these areas is more likely to infiltrate into the ground or run off as sheet flow.

As indicated above, the watercourse with the largest watershed is 0.52 square mile; therefore, the Project would not intersect a watercourse with a watershed greater than 1 square mile, and the first significance criterion above is not applicable to the Proposed Project site. Nevertheless, Appendix 3.1.4-1 includes a flood inundation analysis using the Army Corps of Engineers' Hydrologic Engineering Centers River Analysis System (HEC-RAS) software. This analysis found that the increase in the 100-year floodplain stage upstream and downstream as a result of the Proposed Project would be 0.02 feet and 0.03 feet, respectively. This increase is negligible, and would not impact any existing features adjacent to the subject property (Appendix 3.1.4-1).

Furthermore, the Proposed Project would not substantially increase peak flow rates on-site and in areas immediately downstream of the Project. As a result of the development of the Proposed Project, approximately 1.9 acres (approximately 0.3% of the contributing watershed) of the approximately 555-acre contributing watershed that discharges across the Proposed Project will be converted from undisturbed natural terrain to impervious surfaces comprising battery storage area, substation area, and inverter pads during the post-development condition (see Section 5 of Appendix 3.1.4-1). Following Project construction, the general topography of the site would remain the same and stormwater from the contributing subwatersheds would continue to flow across the Project site—from east to west in the northern and eastern part of the site, and from north to south in the southern and western part of the site. Due to the size of the contributing watersheds that enter the northern part of the site, the flows from these watersheds would be intercepted by an engineered drainage channel running in a north–south direction along the eastern side of the site for conveyance to the west by two proposed drainage channels and into existing drainage swales (see Figure 1-3, Site Plan). These drainage channels have been designed to mimic the natural drainage pathways of the contributing watershed.

The overall difference between the pre-development and post-development peak flow rate and volumes are not substantial because only 0.3% of the contributing watershed would be converted to impervious surfaces under the Proposed Project. Grading would occur over limited areas including internal access roads, the substation, and the inverter pads. The preferred method of installation for the PV panel racks would be via vibratory pile driver, which would not involve a concrete pad foundation. Furthermore, impervious surfaces on the site would be largely dispersed across the site and physically segregated such that stormwater flows would have little opportunity to accumulate or accelerate beyond pre-project conditions. Because of this, the

relatively small size of the contributing watershed (i.e., less than 1 square mile), and because there are no public facilities or developed areas adjacent to the site, the Project would not result in significant impacts with respect to off-site/downstream flooding; i.e., the Project would not substantially affect the magnitude, extent, or severity of existing downstream flood hazards.

The proposed drainage system would be designed to accommodate the 100-year peak flow event, and would do so in a manner that mimics the natural drainage courses as closely as possible. The proposed drainage channels will convey the off-site runoff across the Proposed Project by maintaining the hydrologic patterns that are similar to the pre-development condition. The proposed drainage system would discharge peak flows at a rates ranging from less than 10 cfs (for very small sub-basins) to 243 cfs (for the largest sub-basin) under a 100-year storm event. Without considering implementation of erosion control, velocity reduction, energy dissipation, and other BMPs, the project would result in minor localized increases in peak discharge during 100-year storm event (see Table 3.1.4-3, Pre- and Post-Project Peak Runoff). As discussed in the Hydrology and Drainage Study for the Project (Appendix 3.1.4-1), there are also localized decreases in peak discharge when considering drainage sub-basins within the Project site individually.

The Project's preliminary grading plans include details on the location and type of BMPs necessary to further 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 of San Diego SUSMP).

The exact location and type of temporary BMPs to be installed during construction would depend on site-specific conditions, construction schedule, and proposed activities, all of which would be outlined in the construction SWPPP. The temporary BMPs listed in the Project's preliminary grading plans 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 SUSMP, are also included on the Project's preliminary grading plans and identified in the Project Minor SWMP (Appendix 3.1.4-2). 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 Minor SWMP 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 will include:

- Implementation of source control BMPs
- Inclusion of LID 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
- Protection of channel banks/manufactured slopes and outlet protection (e.g., energy dissipaters and velocity dissipation devices)
- Inclusion of infiltration trenches 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 trenches will 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 peak flow rates. Depending on whether a permit or agreement is required from the California RWQCB and the ACOE in accordance with a Clean Water Act, Section 401/404 permit issued by the California RWQCB and the ACOE, velocity dissipaters and/or other measures at the outlet of engineered drainage channels may be modified or amended to meet agency standards. In either case, the drainage system would be designed in a manner that would avoid or substantially reduce Project-related effects on erosion or siltation on or off site.

Because implementation of the Minor SWMP (and the construction and operational BMPs described therein) is a condition of the MUP, and because the hydrology and drainage report has demonstrated the Project has been designed to maintain existing drainage patterns (see Appendix 3.1.4-1 and 3.1.4-2), adverse impacts associated with hydrology and drainage patterns would be minimized to a **less than significant level**. Erosion control, velocity reduction, energy dissipation, and other measures described in the Minor SWMP would be sufficient to minimize the potential for slight increases in peak flow rates to erode or scour downstream drainage channels.

3.1.4.3.2 Flood Hazards

Guidelines for the Determination of Significance

For the purpose of this EIR, the County's Hydrology Guidelines (County of San Diego 2007a) apply to both the direct impact analysis and the cumulative impact analysis. These significance guidelines have been developed by the County to address questions (g), (h), and (i) in the CEQA Guidelines, Appendix G. No projects within the existing unincorporated County are likely to be inundated by a tsunami or seiche. Therefore, the County has not adopted guidelines for tsunami or seiche, and the Project can be considered to have no impact with respect to seiche or tsunami.

A significant impact would result if:

- The project would result in placing housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a FIRM, a County Flood Plain Map, or County Alluvial Fan Map, which would subsequently endanger health, safety, and property due to flooding. Flooding includes mudflows and debris flows.
- The project would place structures within a 100-year flood hazard or alter the floodway in a manner that would redirect or impede flow resulting in any of the following: a) alter the Lines of Inundation resulting in the placement of other housing in a 100-year flood hazard, or b) increase water surface elevation in a watercourse with a watershed equal to or greater than 1 square mile by 1 foot or more in height and, in the case of the San Luis Rey River, San Dieguito River, San Diego River, Sweetwater River, and Otay River, 2/10 of a foot or more in height.

Analysis

The Proposed Project does not involve housing, and all structures to be placed on the Project site would be anchored, including the masts and inverters, and all structures associated with the O&M area and substation. None of the Project site is located within a 100-year floodplain area or other special flood hazard area as shown on a Flood Insurance Rate Map (FIRM), a County Flood Plain Map, or County Alluvial Fan Map. In addition, The Project is not downstream of a dam or located in an area likely to be affected by mudflows or debris flows. Therefore, the first significance criterion above—placing housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area—is not applicable to the Proposed Project.

However, the Proposed Project site is crossed by drainages which would be subject to 100-year flood-flows that have not been identified or characterized by FEMA or the County. However, as discussed in Section 3.1.4.3.1, the drainage system would be designed to adequately handle the

100-year flows estimated for the site. Therefore, the impact of the Proposed Project site with respect to flood hazards would be **less than significant**.

3.1.4.3.3 Surface Water and Groundwater Quality

Guidelines for the Determination of Significance

For the purpose of this EIR, the County's Surface Water Quality Guidelines and Groundwater Resources Guidelines (County of San Diego 2007b, 2007c) apply to both the direct impact analysis and the cumulative impact analysis. The following significance guidelines have been developed by the County to address questions a), e), and f) in the CEQA Guidelines, Appendix G. A significant impact would result if:

- The project is a development project listed in County of San Diego, Code of Regulatory Ordinances (Regulatory Ordinances), Section 67.804(g), as amended and would not comply with the standards set forth in the County Stormwater Standards Manual, Regulatory Ordinances Section 67.813, as amended, or the Additional Requirements for Land Disturbance Activities set forth in Regulatory Ordinances, Section 67.
- The project would drain to a tributary of an impaired water body listed on the CWA Section 303(d) List, and would contribute substantial additional pollutant(s) for which the receiving water body is already impaired.
- The project would drain to a tributary of a drinking water reservoir and would contribute substantially more pollutant(s) than would normally run off from the project site under natural conditions.
- The project would contribute pollution in excess of that allowed by applicable state or local water quality objectives or would cause or contribute to the degradation of beneficial uses.
- The project would not conform to applicable federal, state, or local "Clean Water" statutes or regulations including but not limited to the Federal Water Pollution Control Act; California Porter-Cologne Water Quality Control Act; and the County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance.
- The project would exceed the Primary State or Federal MCLs in groundwater for applicable contaminants.

Analysis

Water Quality Impairments

As discussed in Section 3.1.4.2, Regulatory Setting, there are no impaired water bodies in the vicinity of the Proposed Project. However, the Proposed Project is within the watershed of the

Salton Sea, which is an impaired water under the CWA Section 303(d). CWA Section 303(d) impairments associated with the Salton Sea include arsenic, selenium, nutrients, salinity, chlorpyrifos, DDT, and enterococcus. These are impairments typically associated with agricultural activities, ranching, and/or surface mining (SWRCB 2010). Stormwater runoff and non-stormwater discharges associated with construction and operation of the Proposed Project are unlikely to cause or contribute to water quality impairments related to these impairments as listed on the CWA 303(d) List of Water Quality Limited Segments.

Conceptually, the Proposed Project site is hydrologically connected to the Salton Sea because it is within its watershed. However, due to the arid climate and the site's distance away from the Salton Sea (over 40 miles away), stormwater runoff from the Project site is unlikely to reach these features before infiltrating into the ground or evaporating. The Proposed Project would also not contribute to sediment loads in either water body since the stormwater and authorized non-stormwater discharges from the Proposed Project site would represent a negligible fraction of the watershed. Release of trash, sediment, and other construction-related pollutants from the Proposed Project site would be controlled and minimized through preparation and implementation of a construction SWPPP and a Minor SWMP, as described in Section 3.1.4.3.1, Hydrology and Drainage Patterns.

Drinking Water Reservoirs

The Jacumba Solar Energy Project site does not drain to a drinking water reservoir in the United States. As discussed in Section 3.1.4.3.1, Hydrology and Drainage Patterns, the Proposed Project would implement measures to minimize adverse effects to water quality runoff exiting the solar farm site. Regardless, the amount of water discharged from the Project site in response to local rainfall is negligible when considered in the context of the total discharge entering the Salton Sea from the entire watershed. Therefore, the Proposed Project's contribution of pollutant(s) to the drinking water reservoir, if any, would not be substantial.

Stormwater Quality

As discussed in Section 3.1.4.3.1, Hydrology and Drainage Patterns, as well as Section 3.1.4.2, Regulatory Setting, 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 Minor SWMP for O&M activities.

Because the Proposed Project is greater than 1 acre in size, the applicant would be required to submit an NOI to the Colorado River RWQCB in order 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 the 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 to the Colorado River RWQCB. The SWPPP would apply to the Project as a whole and would include reference to the major construction areas, materials staging areas, substation site, access roads, and work associated with telecommunications and gen-tie facilities.

BMPs to be implemented in accordance with the SWPPP, and the Minor SWMP—that together address alteration of drainage patterns, velocity and peak flow rates, and erosion control—have already been discussed in Section 3.1.4.3.1. According to the Minor SWMP and the Project's erosion control plan, the following LID measures and permanent BMPs will be implemented for the Project (Appendix 3.1.4-2):

- **Minimization of impervious surfaces**: The extent of concrete pads will be minimal and highly dispersed. Concrete pads will only be required for inverters, which are dispersed across the solar array, and as foundations for substation components and battery storage units. Posts for the racking system will be driven directly into the soil, and there will be no paved parking areas. Therefore, the vast majority of the Project site would remain as native soil where stormwater would percolate or evaporate.
- **Permeable roads**: Internal access roads will be surfaced with decomposed granite rather than concrete, which would slow the velocity of stormwater runoff and allow for increased infiltration.
- **Temporarily disturbed areas and slopes**: A non-toxic soil binder will be applied annually to constructed slopes (cut/fill) and areas temporarily disturbed from construction activities until native vegetation naturally recolonizes the area.
- **Outlet protection/energy dissipaters**: The outlets of engineered drainage channels will be armored with riprap and/or other energy dissipation methods as required by ACOE or RWQCB under the terms of the Project's CWA Section 401/404 permit.

Additional BMPs to be implemented would also address other water quality concerns during construction and post construction such as inadvertent release of pollutants (e.g., hydraulic fluids and petroleum); proper management of hazardous materials; spill control containment and avoidance measures; frequent site inspections; cleanup of trash and debris; and proper management of portable restroom facilities (e.g., regular service).

For areas such as the proposed substation, a spill prevention and control countermeasures plan would be required (40 CFR 112.1–112.7) if sufficient quantities of oil or other hazardous substances are present. Typical spill prevention and control countermeasures plan secondary

containment features include curbs and berms designed and installed to contain spills, should they occur. These features would be part of the applicant's final engineering design for the Project and would be incorporated into the facility's operational SWPPP to minimize the potential for hazardous materials to be released off site or to otherwise adversely affect water quality. The Proposed Project would not involve in the long-term use or storage of hazardous materials other than mineral oil. These measures would ensure that construction-related pollutants are not released to surface water or groundwater.

Non-Stormwater Discharges

Non-stormwater discharges during construction could include construction-related dewatering discharges (to keep excavations free of water) and dust control.

Dewatering

These discharges are subject to regulation under the San Diego General Dewatering Permit. Most construction-related grading and excavation activities would be unlikely to encounter groundwater, due to their shallow nature and the arid setting. The Proposed Project site is located in a geologic setting that is unlikely to feature a shallow groundwater table. Nevertheless, the potential to encounter shallow groundwater is highly dependent on local geologic and climatic conditions and the depth of construction-related excavations, and therefore it is possible that construction-related dewatering discharges could be required. As detailed in Section 2.4, Hazards and Hazardous Materials, an Environmental Site Assessment performed on the Proposed Project site found no evidence of existing hazardous materials or contamination on the site or on adjacent properties, which means that, if encountered, groundwater would most likely be free of contaminants, and discharge to surface water would not likely violate Basin Plan standards.

Nonetheless, any dewatering activity that would discharge to the land surface would need to comply with the provisions of General WDRs and ensure compliance with the Basin Plan. The applicant and/or its contractor would submit the following to the Colorado River RWQCB: a Notice of Intent to comply with these General WDRs, a project map, a copy of this CEQA document, the requisite fee, a discharge monitoring plan, and any additional information requested by the Colorado River RWQCB. RWQCB staff would then determine whether coverage under the General WDRs is appropriate and, if so, would notify the applicant by letter of coverage. This permit process is the mechanism by which the Colorado River RWQCB would ensure that discharges of groundwater would not violate basin plan standards. If contaminated groundwater is unexpectedly discovered during discharge monitoring, the applicant would be required to notify the RWQCB and pass groundwater through a treatment unit prior to being discharged to land or surface water.

Dust Control

Non-stormwater discharges during construction would also include periodic application of water for dust control purposes. Since the practice of dust control is necessary during windy and dry periods to prevent wind erosion and dust plumes, water would be applied in sufficient quantities to wet the soil, but not so excessively as to produce runoff from the construction site. Water applied for dust control would either quickly evaporate or locally infiltrate into shallow surface soils. This means that water applied for dust control is unlikely to appreciably affect groundwater or surface water features and thus has little to no potential to cause or contribute to exceedances of water quality objectives contained in the Basin Plan, regardless of whether off-site sources of water are imported for the purposes of dust control. Use of recycled water for dust control would be required to comply with Title 22 standards for the use of recycled water for "other" purposes, which includes soil compaction, concrete mixing and dust control (22 CCR Division 4, Chapter 3, Article 3, Section 60307). This includes the requirement to use at least disinfected secondary-23 recycled water (see regulatory setting for definition). Title 22 also imposes limits on the use of recycled water intended to be protective of domestic wells on nearby properties (22 CCR Division 4, Chapter 3, Article 4, Section 60310). As discussed in Section 3.1.4.3.4, the Project proposes to import water from the Padre Dam Municipal Water District (PDMWD) to supplement the local water source. PDMWD is permitted to provide recycled water to construction projects (including for use in dust control and grading) only because it has been authorized to do so under Order No. 97-49, Waste Discharge Requirements and Water Reclamation Requirements for the Production and Purveyance of Recycled Water for Padre Dam Municipal Water District, San Diego County.

As the Jacumba site is located outside the Padre Dam service area, in order to address water quality requirements for use of recycled water for construction, Colorado River RWQCB Conditional Waiver No. 7 for Discharges of Recycled Water to Land shall be obtained. Discharges to land from short-term recycled water projects without permanent recycled water delivery and/or distribution systems that do not exceed 365 days are eligible to obtain Conditional Waiver No. 7. The proposed use of water from the JCSD well 6 for dust control and grading will occur on an as-needed basis. The majority of the demand would be required over approximately a 36-day period during site clearing and grading. The proposed use of recycled water for dust control and grading is not anticipated to pose a threat to groundwater or surface water quality. Conditions of the waiver require the applicant to implement BMPs to ensure all discharged recycled water will remain on the solar farm site and will not pose a threat to the quality of waters of the state.

Groundwater from the JCSD non-potable well is proposed to be imported to the Proposed Project site to meet construction water demands. Non-potable JCSD groundwater from Well No. 6 is slightly elevated above the drinking water MCL for fluoride, pH, and odor. However, water quality

analyses indicate that groundwater pumped from Well No. 6 does not exceed microbiological, mineral, VOC, and radiochemistry Maximum Concentration Levels with respect to non-potable use, and, therefore, is suitable for use for construction activities such as dust control and to obtain optimum soil moisture for compaction during grading (Appendix 3.1.4-3). While not currently available for the project, JCSD is considering activation of the Park Well. Non potable JCSD groundwater from the Park Well is slightly elevated above the drinking water MCL for toluene. There have been low concentrations of volatile organic compounds (VOCs) detected in groundwater samples collected from monitoring wells west of the Park Well at the former Chevron Service Station No. 20-5934. The Park Well and/or any other wells drilled and used in this area may require wellhead treatment such as an activated carbon filter to remove toluene and/or any other VOCs prior to non-potable use for the project.

Operation and Maintenance

During operation and maintenance, non-stormwater discharges would also include periodic panel washing. Water used for panel washing would be sourced off site, from the JCSD. Each panel washing truck would carry water treatment equipment and truck-mounted panel washing booms. Non-stormwater discharges resulting from panel steam washing would either evaporate in the air, on the panel surface, or be infiltrated into the ground beneath the panels. For the same reasons described above for dust control, such activities have little to no potential to cause or contribute to exceedances of water quality objectives contained in the Basin Plan, even if off-site sources of water are imported.

Overall, the SWPPP to be prepared as part of the Project would include a description of these activities, their potential to generate non-stormwater discharges, and measures to ensure compliance with the Colorado River Basin Plan, and would be part of obtaining required coverage under WDRs, as applicable, and demonstrating compliance with Title 22 standards for the construction-related use of recycled water. Therefore, these activities would not violate Basin Plan standards, or otherwise cause a significant threat to water quality.

ACOE Section 404 Waters

Issues regarding land disturbance within jurisdictional waters and wetlands (i.e., requiring an ACOE Section 404 permit) are discussed in Section 2.2, Biological Resources.

Conclusion

For the previously stated reasons, the proposed Jacumba Solar Energy Project would not violate applicable water quality objectives or WDRs, and would comply with all federal, state, and local laws addressing water quality in both stormwater and non-stormwater discharges. Therefore, the

Jacumba Solar Energy Project would not exceed the significance thresholds identified earlier, and impacts would be **less than significant**.

3.1.4.3.4 Groundwater Resources

Guidelines for the Determination of Significance

For the purpose of this EIR, the County's Groundwater Resources Guidelines (County of San Diego 2007c) apply to both the direct impact analysis and the cumulative impact analysis. The following significance guidelines have been developed by the County to address question (b) in the CEQA Guidelines, Appendix G.

A significant impact would result if:

- The project would reduce the level of groundwater in storage to 50% or less as a result of groundwater extraction, as shown using a soil moisture balance, or equivalent analysis, conducted using a minimum of 30 years of precipitation data, including drought periods.
- For wells installed within an alluvial aquifer, the project would result in a decrease in water level of 5 feet or more in off-site groundwater wells after a 5-year projection of drawdown. If site-specific data indicates alluvium exist which substantiate a saturated thickness greater than 100 feet in off-site wells, a decrease in saturated thickness of 5% or more in the off-site well(s) would be considered a significant impact.

The County's significance guidelines applicable to residential projects or subdivision projects involving multiple owners are not included in the analysis below because the Project is a non-residential project. Furthermore, the Project does not require a potable water source; therefore, the poor groundwater quality guidelines are not applicable. Finally, the Jacumba Valley Groundwater Basin has not been demonstrated to be in overdraft condition; therefore, significance thresholds related to groundwater overdraft conditions are not applicable to the Proposed Project.

Analysis

The total water demand for the Proposed Project construction is expected to be approximately 58.6 acre-feet. Annual Project operating demand, post-construction, is 3.4 acre-feet per year (rounded to the nearest half-acre).

The Proposed Project does not propose an on-site groundwater well to supply the construction and operational phases of the Project. As discussed in the Project's water supply evaluation, water would instead be imported from the JCSD, which is an approximately 8 mile round-trip from the Project site. The Proposed Project is anticipated to import approximately 20.2 acre-feet (or 36% of the construction water demand) for construction from the JCSD, and 3.4 acre-feet per

year (100% of the operational water demand) for the Project's ongoing operational water demands (Appendix 3.1.4-3). JCSD would be able to provide up to 100,000 gallons per day for construction of the Proposed Project). Per CCR Section 64554(c) (New and Existing Source Capacity), which requires community water systems to have a minimum of two approved sources, JCSD is exploring opportunities to increase water supply availability by providing another well for drinking water. Should timing of increased water capacity be such that it could be available for the Proposed Project, the project would use that water in lieu of imported water from Padre Dam. Based on data from the JCSD and Supplemental Groundwater Investigation Report attached as Appendix 3.1.4-4, JCSD could potentially utilize the Park well and/or potentially drill a new well adjacent to the Park Well that could, if in service, in combination with existing JCSD capacity provide enough additional water to service all the Proposed Project water demands. The yield established in the Supplemental Groundwater Investigation for the new well and replacement well (Park Well and Highland Center Well) is approximately 100 AF a year with a daily pumping capacity of approximately 403,200 gpd. The total combined JCSD capacity on a daily basis would be 503,200 gpd should the new well and replacement well be in production prior to the construction of the Project, which is anticipated by JCSD. Under unlikely conditions whereby the new well and replacement well are not in production, non-potable construction water would be sourced from JCSD's Well 6 only and non-potable ~~R~~recycled water from the PDMWD would be imported during the construction phase to supply the remainder of the construction water demand of the Project.

The PDMWD has provided the applicant with a will-serve letter (PDS Form 399W) indicating its intent to provide non-potable recycled water for construction-related use. As of 2010, PDMWD's recycled water distribution system included approximately 217 active connections, 33 miles of pipeline, 1.5 million gallon storage capacity, 1 reservoir tank, and 1 pump station (PDMWD 2010). The PDMWD can treat up to two million gallons per day of wastewater at its Water Recycling Facility. The Proposed Project is anticipated to import approximately 35.9 acre-feet (or 64% of total construction water demand) supplement the water supplies available from PDMWD. In 2010, the water recycling facility produced 1,874 acre-feet of recycled water, which represents an average of 1,673,000 gallons per day (or about 84% of the production capacity) (PDMWD 2010). Groundwater supplies are not available or used by PDMWD; thus, there would be no groundwater impacts associated with imports of recycled water from PDMWD.

According to the Groundwater Resource Investigation Report for the Jacumba Community Services District (Appendix 3.1.4-3), the JCSD would be able to provide up to 100,000 gallons per day during construction, and the entire 3.4 acre-feet per year operational water demand of the Project without exceeding County significance thresholds for groundwater storage and well interference (the first two significance criteria above), either during construction or during operation and maintenance.

JCSD Well 6: Potential impacts to groundwater in storage and well interference from supplying water from JCSD Well 6 were based on a water balance analysis and well interference projections based on historical records of water production for on-site uses, and provision water for construction of the ECO Substation project (Appendix 3.1.4-3). The water balance analysis (which calculates the cumulative depletion of the aquifer over a 30-year period) was performed assuming full buildout of general plan land uses, as well as additional uses the JCSD Well 6 planned for other projects in the region. Besides existing demands on Well 6 and the construction and operational demands of the Jacumba Solar Energy Project, the analysis assumptions also included:

- **One-time use of 48 acre-feet for construction of other solar development projects**: These projects—including the Rugged solar facility—have proposed use of up to 48 acre-feet from JCSD during initial clearing and grading activities. The Proposed Project and other solar development projects would need to coordinate commencement of construction to ensure that they do not overlap given the limit of the supply of water available from JCSD. Site preparation for these projects would last approximately 2 months, with water being supplied exclusively from other sources (i.e., on-site wells) thereafter for the tracker assembly and cleanup phases of construction. Since the Jacumba Solar Project would begin in May 2016, the water demands from JCSD would not overlap with those of the other forecasted solar development project. Therefore, the Groundwater Resource Investigation Report for the JCSD (Appendix 3.1.4-3) included the water use for these projects in the analysis of groundwater in storage and well interference~~.~~. Well-interference effects were limited to a pumping rate of 100,000 gallons per ~~minute~~ day from JCSD Well 6 since the JCSD has indicated this would be the maximum rate allowed for these projects. JCSD is an independent agency that enforces the daily pumping rate of their facility and is responsible for ensuring water levels do not drop below sustainable levels. The Applicant and JCSD have entered into a Water Service Agreement (WSA) that identifies Jacumba Solar as first in line for surplus non-potable water from JCSD, if pre-purchase payment is received on January 15, 2016. If pre-purchase payment is not made by January 15, 2016 the project will coordinate with JCSD and other projects demanding water from JCSD to avoid overlapping construction demands. No other project has a WSA with JCSD.
- **One-time use of 46 acre-feet for construction of the ECO Substation project**: This project is complete and water demands for its construction will be satisfied well before the Jacumba Solar Project is to be constructed. According Appendix 3.1.4-3 , JCSD Well 6 pumped 14.9 million gallons (45.7 acre-feet) between March 2013 and June 2014 to support construction of the ECO Substation. Construction is complete and no further pumping will be required. The Groundwater Resource Investigation Report for JCSD included the water use for the ECO Substation project in the analysis of groundwater in storage. The analysis of well interference for the Jacumba Solar Project was based on water

levels recorded when JCSD provided water for construction of the ECO Substation project.

- **Long-term water demand of 88 acre-feet/year assuming full buildout of general plan land uses**: Using the County's land use layer, it was assumed that 176 single-family residential units could be developed within the watershed. This assumes that each residential unit would demand 0.5 acre-feet of water per year and that each would derive its supplies exclusively from groundwater.

Historical precipitation records from July 1982 through June 2012 were used to estimate recharge within the basin, and the one-time demands of all construction projects were applied. . The Groundwater Resource Investigation Report for JCSD found that neither criterion (well interference and groundwater in storage) would be exceeded as a result of the Project.

The groundwater in storage analysis, which included existing demands, project demands, and cumulative water demands (Scenario 3), found that the minimum volume of groundwater in storage over the 30-year period was approximately 3,514 acre-feet, or 51% of the initial groundwater storage capacity of 6,835 acre-feet (Appendix 3.1.4-3). This was the most conservative scenario, utilizing a rain gauge thought to under-report precipitation data, and assuming all project demands would occur back to back, even though the water demands for the ECO Substation Project have already occurred, and development of the Tierra del Sol Solar Farm is speculative at this time.

With respect to the well interference criterion for off-site wells, Appendix 3.1.4-3 found that the shallow alluvial aquifer is not hydraulically connected to the deep fractured rock hot springs aquifer in which Well 6 is completed. This is based on the different water quality and temperatures of the two aquifer systems and lack of an apparent hydraulic response in the shallower Well 4 when Well 6 is pumped. Predicted drawdown at Well 4 (located 60 feet from Well 6) during the anticipated period of groundwater extraction for the Projects is estimated to be 2.18 feet. This drawdown is due to pumping at Well 4 to supply the JCSD potable water system. Appendix 3.1.4-3 indicates that pumping associated with the project is not predicted to impact off-site wells.

Because use of JCSD Well 6 to supply the Project's construction and operational water demands would not cause significant well interference at Well 4 (i.e., more than 5 feet below baseline) or result in depletion of groundwater in storage to a level less than 50% of the basin's storage, the impact of the Proposed Project with respect to groundwater resources would be **less than significant**.

JCSD Park Well Site: In case JCSD goes forward with plans of potentially utilizing the Park Well site, a Supplemental Groundwater Investigation Report attached as Appendix 3.1.4-4 has been provided which analyzes potential impacts to groundwater in storage and well

interference. As opposed to JCSD Well 6 which falls within the Boundary Creek watershed, the JCSD Park Well site falls predominantly within the Flat Creek Watershed, which is tributary to Jacumba Valley. The Flat Creek watershed is 52,405 acres, with 98% of the acreage within Mexico to the south of the site. The 2,060-acre Jacumba Valley alluvial aquifer is the most significant aquifer within the watershed and underlies the Park Well site. The alluvial aquifer was estimated to contain 6,014 acre-feet of groundwater in storage based on 2014 groundwater conditions. The evaluation indicates there is adequate water supply at the Park Well Site to provide for the total water demand of the construction (58.6 acre-feet) and operating demand (3.4 acre-feet per year) without significantly impacting groundwater resources within the 2,060-acre Jacumba Valley alluvial basin. However, the Park Well ~~has~~ had limited ~~production~~ capacity in terms of the gallons per day production, but JCSD was in the process of implementing its replacement well project contemplated by JCSD prior to the Jacumba Solar Project~~and would likely need to be supplemented with additional well(s) to meet the peak demand during the construction phase of the project~~. JCSD has implemented the replacement wells project. The Park Well will be able to pump 115,200 gpd (Appendix 3.1.4-4 and the Highland Center Well will be able to provide 288,000 gpd (3.1.4-4) which totals 403,200 gpd from replacement well supplies. The Park Well and Highland Center Well replace 213,120 gpd from Well 1 (Appendix 3.1.4-4, Swenson 1981) and 216,000 gpd from Well 2 that are being officially converted to monitoring wells. When the replacement well total of 403,200 gpd is added to the 100,000 gpd available from Well 6, JCSD has the peak capacity to supply 503,200 gpd, which is far in excess of the Project, which only demands 326,000 gpd at its peak period of grading. The County has included conditions of the MUP that give enforcement ability to the County to protect the groundwater resource including limits on the total acre feet, gallons per day pumping, and monitoring of groundwater levels.

3.1.4.4 Cumulative Impact Analysis

The geographic scope of cumulative effects on hydrology and water quality differs somewhat depending on the issue being addressed. The geographic scope for surface water quality and hydrology is typically watershed-based, whereby projects contributing flow to the same water bodies as the Proposed Project would be considered. For groundwater impacts, the geographic scope of cumulative effects would be the groundwater aquifer affected by the Proposed Project. For fractured rock aquifers, the edges of the basin are typically presumed to be the topographic divides or watershed boundaries.

Project impacts to both surface water and groundwater resources were found to be less than significant because they did not exceed County thresholds. In the cumulative context, for wells within the same sub-basin, each well's extraction adds to the cumulative drawdown of the basin as a whole, even if the volume relative to total basin storage is negligible or minor. Projects considered in the cumulative scenario include other utility-scale renewable energy projects in the

vicinity, including energy generation and transmission projects, as well as projections based on assumed general plan buildout, and includes the JCSD New Well Project (also referred to as the replacement wells project, which involves replacement of the Park Well monitoring well with a production well and a new Highland Center Well).

3.1.4.4.1 Hydrology, Drainage Patterns, and Water Quality

In the absence of regulatory controls, the primary cumulative effect of the Proposed Project in the cumulative scenario would be to alter the natural hydrology of the region through increases in the area covered by impervious surfaces, to develop access roads and utility corridors, and to increase the potential for the release of non-point source pollutants (i.e., motor fuels, trash, and sediment). The typical effect of substantial increases in impervious surfaces is that peak flows within the watershed's drainages are greater in magnitude, shorter in duration, and more responsive to storm events, since a greater portion of precipitation is carried by surface runoff rather than percolated into the soil. New roads and/or transmission line corridors can often block or redirect stormwater flows if improperly designed. These effects are undesirable with respect to flood hazards, water quality, and habitat quality.

However, the Proposed Project, along with other projects occurring in the area, would be required to comply with applicable federal, state, and local water quality regulations. The Project, along with other projects over 1 acre in size (which includes most of the projects in the cumulative scenario), would be required to obtain coverage under the NPDES CGP, which requires project proponents to identify and implement stormwater BMPs that effectively control erosion and sedimentation and other construction-related pollutants. Further, nearly all projects identified in the cumulative scenario would meet the definition of "new development and redevelopment projects" under the San Diego County MS4 Permit. Such projects are required to implement site design, source control, and, in some cases, treatment control BMPs necessary to control the volume, rate, and water quality of stormwater runoff from the project during long-term operations. This is implemented locally by San Diego County by requiring new development projects to submit and implement a SWMP, as described in Section 3.1.4.2, Regulatory Setting.

The various NPDES permits required are aimed at maintaining the beneficial uses of the water bodies in the RWQCB Basin Plan, and meeting water quality objectives associated with specific pollutants of concern. Because adverse water quality and major hydrologic alterations are linked to the large-scale, cumulative effects of development projects as well as industrial and/or agricultural land uses, the provisions within the various NPDES permits, by their nature, seek to address cumulative conditions. Additionally, depending on the location and nature of individual projects in the cumulative scenario, they would be required to comply with County of San Diego ordinances, including the Grading Ordinance; the Watershed Protection, Stormwater

Management, and Discharge Control Ordinance; the Flood Damage Prevention Ordinance; and/or the RPO; all of which are described above in Section 3.1.4.2, Regulatory Setting. These federal, state, and local regulations would ensure that the Project impacts to hydrologic resources and water quality **would not be cumulatively considerable**.

3.1.4.4.2 Groundwater Resources

As discussed earlier, water imports from JCSD Well 6 would not result in significant impacts on groundwater resources because it would not result in significant depletion of groundwater in storage (i.e., more than 50% using a minimum of 30 years of precipitation data including drought periods) or substantial well interference (i.e., greater than a 5-foot drawdown in the nearest groundwater well after a projection of drawdown using historical water production and water level records). As detailed in Section 3 of Appendix 3.1.4-3, the scenarios used to model the total groundwater in storage over a 30-year period considered all water demands within the groundwater basin (defined in this case as the watershed tributary to JCSD), including the temporary construction water demands of ECO Substation, the Rugged solar facility, and an assumption that the entire groundwater basin was developed to the maximum density and intensity permitted by the General Plan. Included in the 30-year water-balance was the initial 6-month construction period during which high groundwater use would occur, as well as the long term water demands of the Proposed Project. A separate analysis, included as Appendix 3.1.4-4, evaluates the potential effects on groundwater of JCSD's development of the Park Well per CCR Section 64554(c) (New and Existing Source Capacity), which requires community water systems to have a minimum of two approved sources. Should the Park Well and Highland Center Well be ~~developed~~put to full production, ~~it~~ they could be used in lieu of imports from Padre Dam Municipal Water District, which is expected to be limited to during the peak construction water demand (i.e. during the 4-6 weeks of site preparation and grading). According to the analysis, the impact would likewise be less than significant should the ~~park well~~Park Well and Highland Center Well be developed and utilized to supplement the peak water demands of the project.

Since the Proposed Project would use water from the existing JCSD and would require a high demand for a short duration only during construction, the contribution to impacts in the wider context of the entire sub-basin would not be cumulatively considerable. The analysis in Section 3 of Appendix 3.1.4-3 included cumulative conditions in its initial assumptions. Therefore, the less-than-significant conclusion regarding groundwater in storage is equally applicable to the cumulative scenario.

For these reasons, the Proposed Project **would not result in a cumulatively considerable impact**. Any off-site groundwater sources imported for short-term use during the peak construction period would have to come from a source that is permitted to provide the water, which requires the purveyor to demonstrate its impacts on groundwater resources are less than significant.

3.1.4.5 Conclusion

Hydrology and Drainage Patterns

The Proposed Project would result in minor changes to the rate, volume, and location of stormwater runoff, and would preserve the two watercourses that run through the site by constructing engineered drainage channels to convey their flow. With implementation of the required Minor SWMP, SWPPP, and requirements to obtain permits from the ACOE and RWQCB pursuant to the Clean Water Act, impacts would be **less than significant**.

Flood Hazards

The Proposed Project area is not located within a 100-year floodplain area or other special flood hazard area as shown on a FIRM, a County Flood Plain Map, or County Alluvial Fan Map. In addition, the Proposed Project is not downstream of a dam or located in an area likely to be affected by mudflows or debris flows. The Proposed Project site is crossed by drainages that would be subject to 100-year flood-flows that have not been identified or characterized by FEMA or the County. The Project's drainage system would be designed to adequately handle the 100-year flows estimated for the site and in accordance with Chapter 6 of the Grading Ordinance, grading and development plans would not be approved without being accompanied by the hydrology and flood studies necessary to demonstrate that the Proposed Project would not perform any action that impairs, impedes, or accelerates the flow of water in a watercourse in such a manner that adversely affects adjoining properties. Therefore, potential impacts would be **less than significant**.

Surface Water and Groundwater Quality

The Proposed Project would have a less than significant impact with respect to water quality because (1) the Proposed Project does not directly discharge to an impaired water body; (2) construction and operational sources of pollutants, including sediment, trash, and fuels, would be addressed through implementation of both a SWPPP and a Minor SWMP for the Proposed Project; (3) the Project site does not drain to a drinking water reservoir in the United States; (4) the potential non-stormwater discharges associated with the Proposed Project would require approval from the Colorado River RWQCB or the SWRCB (General WDRs for Discharges to Land with a Low Threat to Water Quality) and the County of San Diego, Department of Environmental Health (for on-site wastewater treatment systems); and (5) adverse effects to groundwater quality would not occur because groundwater to be used for potable purposes does not exceed state and federal MCLs and because potential threats to groundwater quality as a result of construction, operation, and maintenance of the Proposed Project would be addressed through compliance with a Construction SWPPP during construction and an Operational SWPPP during the operating life. Therefore, with compliance of existing regulations the Proposed Project

would result in less than significant impacts to surface water and groundwater quality.

Groundwater Resources

The groundwater resources investigation reports conducted for the Proposed Project site has concluded that the County's significance thresholds for both groundwater in storage and well interference would not be met (Appendix 3.1.4-3). Because the Proposed Project would have less than significant impacts with respect to groundwater resources, and because the peak construction water demands of the Proposed Project would be for a short duration and would be wholly or supplementarily fulfilled by PDMWD, the impact of the Proposed Project would be **less than significant**.

Table 3.1.4-1
Beneficial Uses of Waters within the Study Area

	MUN[a]	AGR	IND	GWR	REC 1	REC 2	WARM	WILD	RARE
Surface Water									
Carrizo Creek		X		X	X	X	X	X	X
Boundary Creek	P	X		X	X	X	X	X	
Unlisted Perennial and Intermittent Streams	P			I X	I PX	I X	I X	I X	[b]
Washes (ephemeral streams)				I	I	I	[c]	I	
Groundwater									
Anza-Borrego hydrologic unit	X[d]	X	X						

Sources: Colorado River RWQCB 2006.

Notes: X = existing beneficial uses; P = potential uses; I = intermittent uses; + = exempted by the applicable RWQCB from the municipal use designation under the terms and conditions of SWRCB Resolution No. 88-63, Sources of Drinking Water Policy.

[a] Refer to Table 3.1.4-2 for definition of abbreviations.

[b] Rare, endangered, or threatened wildlife may exist in or utilize some of these waterways. If the RARE beneficial use may be affected by a water quality control decision, responsibility for substantiation of the existence of rare, endangered, or threatened species on a case-by-case basis is upon the California Department of Fish and Wildlife on its own initiative and/or at the request of the applicable RWQCB; and such substantiation must be provided within a reasonable time frame as approved by the RWQCB.

[c] Use, if any, to be determined on a case-by-case basis.

[d] An "X" placed under the MUN in this Table for a particular hydrologic unit indicates only that at least one of the aquifers in that unit currently supports a MUN beneficial use. For example, the actual MUN usage of the Anza-Borrego hydrologic unit is limited only to a small portion of that ground water unit.

Table 3.1.4-2
Definitions of Beneficial Uses of Surface Waters

Beneficial Use	Description
Municipal and Domestic Supply (MUN)	Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.
Agricultural Supply (AGR)	Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

Table 3.1.4-2
Definitions of Beneficial Uses of Surface Waters

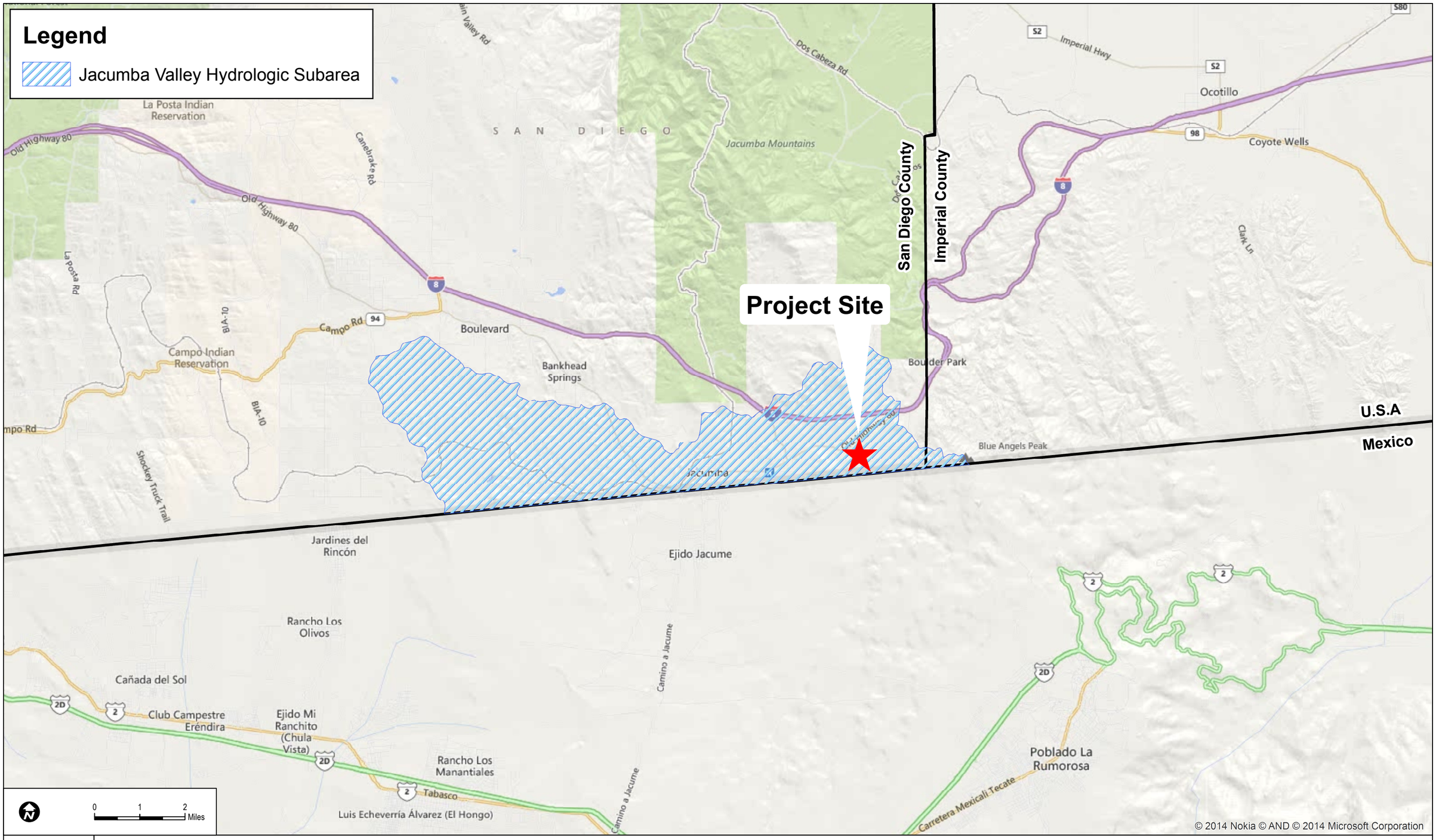
Beneficial Use	Description
Industrial Service Supply (IND)	Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.
Groundwater Recharge (GWR)	Uses of water for natural or artificial recharge or groundwater for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.
Water Contact Recreation (REC 1)	Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white-water activities, fishing, or use of natural hot springs.
Non-contact Water Recreation (REC 2)	Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
Warm Freshwater Habitat (WARM)	Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Wildlife Habitat (WILD)	Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
Rare, Threatened, or Endangered Species (RARE)	Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

Sources: San Diego RWQCB 2011; Colorado River RWQCB 2006.

Table 3.1.4-3
Pre- and Post-Project Results Comparison

Discharge Point	Existing Pre-development Condition Results							Proposed Post-development Condition Results						
	Basin	*Area (Acres)*	*Weighted C*	*Tc (min)*	*I (in/hr)*	*Peak Q_{100} (cfs)*	*V (fps)*	*Basin*	*Area (Acres)*	*Weighted C*	*Tc (min)*	*I (in/hr)*	*Peak Q_{100} (cfs)*	*V (fps)*
DP 1	1	21.41	0.20	26.48	2.70	11.55	5.17	1 and 2	23.73	0.20	27.60	2.63	13.10	2.17
DP 2	2	11.08	0.22	17.01	3.59	8.63	3.42	2	8.76	0.32	15.77	3.77	10.51	2.90
DP 3	3	8.94	0.25	14.71	3.94	8.83	2.89	3	8.94	0.26	14.88	3.91	9.11	2.82
DP 4	4	123.62	0.23	23.44	2.92	82.60	8.89	4	123.62	0.23	23.87	2.88	82.11	6.95
DP 5/6	5 and 6	330.83	0.30	29.63	2.51	248.60	10.99	5 and 6	330.83	0.30	30.54	2.46	243.34	7.94
DP 7	7	30.02	0.27	26.23	2.71	22.26	3.22	7	30.02	0.27	26.23	2.71	22.26	3.22
DP 8	8	11.61	0.35	12.98	4.27	17.37	3.89	8	11.23	0.36	11.44	4.63	18.89	3.64
DP 8.1	8.1	3.14	0.35	11.39	4.65	5.11	4.69	8.1	3.53	0.35	8.84	5.47	6.75	4.94
DP 9	9	11.41	0.35	11.36	4.65	18.57	4.56	9	11.84	0.36	14.47	3.98	16.83	4.08
DP 9.1[a]	9.1	0.43	0.35	9.92	5.08	0.76	3.41	9.1	Basin 9.1 is a part of Basin 9 for the post-development condition					
DP 10	10	2.81	0.35	12.85	4.30	4.23	4.11	10	2.81	0.35	12.85	4.30	4.23	4.11

Source: Appendix 3.1.4-1, Table 8.
Notes: C = Runoff Coefficient; Tc = Time of Concentration; I = Intensity; Q = Runoff; V = Velocity.
min = minutes; in/hr = inch per hour; cfs = cubic feet per second; fps = feet per second.
[a] For the post-development condition, there is no DP 9.1 because runoff from Basin 9.1 flows to Basin 9 based on the preliminary grading plans. Therefore, Basin 9.1 was merged with Basin 9.



DUDEK

SOURCE: Bing 2014, SANGIS 2014

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Jacumba Solar Energy Project

FIGURE 3.1-4-1

Hydrologic Setting

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