D.12 Water Resources

This section addresses potential impacts to water resources resulting from construction and operation of the Proposed PROJECT. Section D.12.1 provides a description of the environmental setting/affected environment for existing water resources in the project study area and regulations are introduced in Section D.12.2. An analysis of the Proposed PROJECT impacts/environmental effects and discussion of mitigation is provided in Section D.12.3. An analysis of project alternatives is provided in Sections D.12.4 through D.12.7. Section D.12.8 provides mitigation monitoring, compliance, and reporting information. Section D.12.9 addresses residual effects of the project and Section D.12.10 lists the references cited in this section.

D.12.1 Environmental Setting/Affected Environment

Methodology and Assumptions

This section presents a discussion of existing surface water, drainage, flooding, water quality, and groundwater resources within the East County (ECO) Substation, Tule Wind, and Energia Sierra Juarez U.S. Generator-Tie (ESJ Gen-Tie), as well as the Campo, Manzanita, and Jordan wind energy project areas. The Campo, Manzanita, and Jordan wind energy projects are being analyzed at a program level in this EIR/EIS as no site-specific survey data is available. Due to the close proximity of these wind energy projects to the ECO Substation, Tule Wind, and ESJ Gen-Tie projects, a similar water resources setting is assumed.

Baseline hydrologic conditions in the Proposed PROJECT area were obtained from a review of reference documents listed in Section D.12.8, including documents from the United States Geological Survey (USGS), California Department of Water Resources (DWR), State Water Resources Control Board (SWRCB), Colorado River Basin Regional Water Quality Control Board (RWQCB), and San Diego RWQCB. Other documents reviewed include Groundwater Resources, Tule Wind Project, East County San Diego (Geo-Logic Associates 2010); Tule Wind Project Preliminary Drainage Summary (HDR 2009a); Draft Tule Wind Project Major Use Permit Stormwater Management Plan, County of San Diego (HDR 2009b); Tule Wind Project Preliminary Drainage Report Tule Wind Project Stormwater Management Plan (HDR 2010a); Tule Wind Project: Preliminary Drainage Report (HDR 2010b); Hydrology Study ESJ Gen-Tie Line 230 kV and 500 kV Alternatives, San Diego County, California (Burns & McDonnell 2009); a groundwater supply options memorandum for the ESJ Gen-Tie Project (Bennett pers. comm. 2010); Major Stormwater Management Plan (SWMP) for the Construction Activities Associated with the Energia Sierra Juarez U.S. Transmission Gen-Tie Project (Burns & McDonnell 2010); as well as aerial photographs and topographic maps.

In addition, San Diego Gas and Electric's (SDG&E's) Proponent's Environmental Assessment (PEA) for the East County Substation Project (August 2009), the Applicant's Environmental Document for the Tule Wind Project (Iberdrola Renewables, Inc. 2010), and Energia Sierra Juarez U.S Transmission, LLC's, Initial Study (March 2010) were also reviewed to assess the existing environmental setting.

D.12.1.1 General Overview

The Proposed PROJECT area is located within the Colorado and San Diego river basins. The majority of the Proposed PROJECT area is located within the Colorado River Basin (Figure D.12-1, Surface Water Resources Occurring in the Proposed PROJECT Area), which covers approximately 13 million acres (20,000 square miles) in southeastern California. The Colorado River Basin includes portions of eastern San Diego County (County), all of Imperial County, and portions of San Bernardino and Riverside counties. The majority of the Proposed PROJECT area lies within the Anza-Borrego watershed (hydrologic unit) and the Jacumba and Agua Caliente hydrologic areas of the Colorado River Basin, as shown in Figure D.12-1. Surface waters in the Anza-Borrego watershed ultimately flow to the Salton Sea. Average annual precipitation in the Anza-Borrego watershed ranges from 3 inches along the eastern boundary to 25 inches along the western border near the Proposed PROJECT site (Colorado River Basin RWQCB 2006). The majority of the rainfall in the Anza-Borrego watershed occurs as a result of winter storms, especially in the higher elevations, and summer thunderstorms.

A portion of the Tule Wind Project area is located west of the Tecate Divide in the San Diego River Basin, Tijuana watershed (hydrologic unit), and Cameron hydrologic area, where surface waters eventually drain into the Pacific Ocean. The Tijuana watershed (hydrologic unit) is a triangular-shaped area that is drained by Cottonwood and Campo creeks, which are tributaries to the Tijuana River. The unit is sparsely populated with the major population centers at San Ysidro and Campo. Annual precipitation varies from less than 11 inches near the coast to more than 25 inches farther inland near Laguna Mountain. Runoff is captured by Morena Reservoir and Barrett Lake on Cottonwood Creek (San Diego RWQCB 2007).

Surface Water

Numerous erosion gullies, swales, and dry washes transect the Proposed PROJECT site. During heavy rain events, runoff starts as sheet flow and concentrates in several paths as it flows into area streams. The Proposed PROJECT site includes several USGS blue-line drainages, including Carrizo Creek, Carrizo Wash, Boundary Creek, and several unnamed dry drainages. No navigable waters are within the Proposed PROJECT site or vicinity. Table D.12-1, Surface Water Resources, lists the surface water resources that occur in the Proposed PROJECT area.

The location of these water resources is depicted in Figure D.12-1 and in more detail in Figures D.2-1, D.2-2, and D.2-3 in Section D.2, Biological Resources.

Table D.12-1
Surface Water Resources

Drainage Feature	Feature	USGS Blue-Line Drainage	Flow Direction	Distance from Project Area	Flow Characteristic
ECO Substation Project					
Boulder Creek	Intermittent Creek	Yes	South to north	Located east and upslope of the ECO Substation site	Intermittent
Unnamed	Dry wash, drains to tributary of Carrizo Creek	No	East to west	Located just north of the ECO Substation site	Ephemeral
Unnamed	Dry wash, drains to tributary of Carrizo Creek	No	East to west	Located within the boundaries of the ECO Substation site	Ephemeral
Unnamed	Dry wash, drains to tributary of Carrizo Creek	No	East to west	Located within the boundaries of the ECO Substation site	Ephemeral
Unnamed	Dry wash, drains to tributary of Carrizo Creek	No	East to west	Located within the boundaries of the ECO Substation site	Ephemeral
Unnamed	Dry wash, drains to Carrizo Creek	Yes	Northeast to southwest	Crosses transmission line right-of-way (ROW)	Ephemeral
Unnamed	Dry wash, drains to Carrizo Creek	Yes	North to south	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash, drains to Carrizo Creek	No	Northeast to southwest	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash, drains to Carrizo Creek	No	North to south	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash, drains to Carrizo Creek	No	North to south	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash, drains to Carrizo Creek	No	North to south	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash, drains to Carrizo Creek	Yes	North to south	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash, drains to Carrizo Creek	No	North to south	Crosses transmission line ROW	Ephemeral
Carrizo Creek	Intermittent creek	Yes	Generally east to west	Crosses transmission line three times	Intermittent
Unnamed	Dry wash, drains to Carrizo Creek	No	South to north	Crosses transmission line ROW	Ephemeral
Carrizo Wash	Desert wash with riparian scrub	Yes	North to south	Crosses transmission line ROW	Ephemeral

Table D.12-1 (Continued)

Drainage Feature	Feature	USGS Blue-Line Drainage	Flow Direction	Distance from Project Area	Flow Characteristic
Unnamed	National Wetland Inventory (NWI)-fresh emergent wetland	Not applicable (N/A)	N/A	Crosses transmission line ROW	N/A
Unnamed	Dry wash	Yes	North to south	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash	No	North to south	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash	Yes	North to south	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash	Yes	North to south	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash	Yes	Northeast to southwest	Crosses transmission line ROW	Ephemeral
Boundary Creek	Intermittent creek	Yes	South to north	Crosses transmission line ROW	Intermittent
Unnamed	Intermittent creek	Yes	Southeast to northwest	Crosses transmission line ROW	Intermittent
Unnamed	Dry wash	No	Northwest to southeast	Crosses transmission line ROW	Ephemeral
Lake Domingo	Lake	N/A	N/A	Approximately 400 feet north of transmission line ROW	Perennial
Unnamed	Dry wash, drains to Lake Domingo	Yes	South to north	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash, drains to Lake Domingo	Yes	West to east	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash, drains to drainage at Milepost 9	No	West to east	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash, drains to Lake Domingo	Yes	Northwest to southeast	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash	No	South to north	Parallel to and crosses transmission line ROW	Ephemeral
Unnamed	Dry wash	No	South to north	Parallel to and crosses transmission line ROW	Ephemeral
Unmapped	Dry wash	No	South to north	Parallel to and crosses transmission line ROW	Ephemeral
Unnamed	NWI-fresh emergent wetland	N/A	N/A	Crosses transmission line ROW	Ephemeral
Unnamed	Dry wash	No	South to north	Parallel to transmission line ROW within approximately 100 feet at closest point	Ephemeral

Table D.12-1 (Continued)

Drainage Feature	Feature	USGS Blue-Line Drainage	Flow Direction	Distance from Project Area	Flow Characteristic
Unnamed	Dry wash	No	South and north	Parallel to and crosses transmission line ROW	Ephemeral
Unnamed	Dry wash	No	South to north	Parallel to and crosses transmission line ROW	Ephemeral
Unnamed	Dry wash	No	South to north	Parallel to transmission line ROW and within approximately 20 feet at closest point	Ephemeral
Tule Wind Project					
Tule Creek	Intermittent creek	Yes	West to northwest	Crosses project site near Boulevard Substation	Intermittent
Walker Creek	Intermittent creek	Yes	South to southeast	Approx. 0.5 mile west of ECO transmission line and Boulevard Substation	Intermittent
Canebrake Wash	Intermittent creek	Yes	North to northeast	Crosses Tule project site at the northern tip and runs northeast from there	Intermittent
Bow Willow Creek	Intermittent creek	Yes	East to northeast	Starts within project boundary and flows east	Intermittent
Willow Creek	Intermittent creek	Yes	East to northeast	Approximately 1 mile east of project site	Intermittent
Carrizo Creek	Intermittent creek	Yes	Generally south	Approximately 4 miles southeast of project site	Intermittent
La Posta Creek	Intermittent creek	Yes	South	Approximately 0.5 mile west–southwest of project site	Intermittent
Simmons Canyon	Intermittent creek	Yes	South to southwest	Runs out from project site to the southwest	Intermittent
ESJ Gen-Tie Project					
Carrizo Creek	Intermittent creek	Yes	Generally east to west	Approximately 0.4 mile east of project site	Intermittent

Sources: SDG&E 2009; Iberdrola Renewables, Inc. 2010; SANGIS 2008.

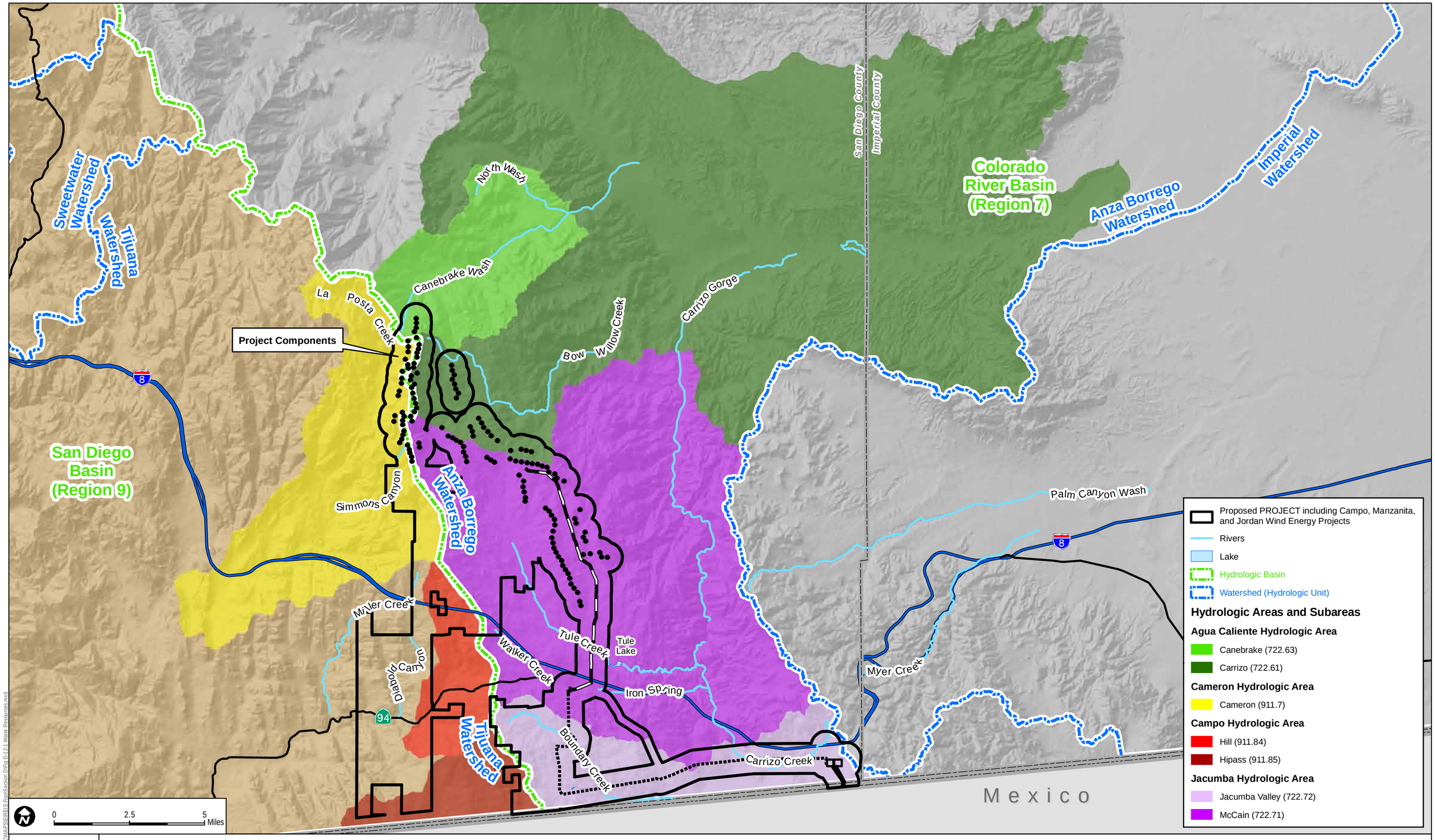
As described in Section B.2, Biological Resources, wetlands, open water features, and drainages in general are considered sensitive biological resources and may be under the jurisdiction of the U.S. Army Corps of Engineers (ACOE) as wetlands or waters of the United States; California Department of Fish and Game (CDFG) as riparian areas, lakes, or streambeds; or the RWQCB as

waters of the state. These regulatory agencies make the ultimate determinations of which features are subject to their respective jurisdiction. Boundary Creek, Bow Willow Creek, Canebrake Wash, Carrizo Creek, and Tule Creek are the major drainages in the area that have features that support scattered wetlands communities (i.e., emergent wetlands, mulefat scrub, southern riparian woodland, and southern willow scrub as described previously), and that would be considered jurisdictional. Aside from these major drainages and scattered wetland communities, jurisdictional features in the Proposed PROJECT area are predominantly narrow, sandy ephemeral washes that would be considered non-wetland jurisdictional waters of the U.S. and streambeds. For more information on jurisdictional resources within the PROJECT area see Section D.2, Biological Resources. Within the Proposed PROJECT area, Boundary Creek and Carrizo Creek provide beneficial uses for agricultural supply, groundwater recharge, non-contact water recreation, and wildlife habitat (Colorado River Basin RWQCB 2006). In addition, dry washes in the Proposed PROJECT area provide beneficial uses for groundwater recharge, non-contact recreation, and wildlife habitat.

Groundwater

Portions of the Proposed PROJECT lie within the Jacumba Valley Groundwater Basin (County of San Diego 2010a). The total groundwater storage capacity of Jacumba Valley Groundwater Basin aquifer is unknown. There are two main water-bearing deposits in the Jacumba Valley Groundwater Basin: alluvium and the Table Mountain Formation. Groundwater storage in the Holocene alluvium was estimated to range from 9,600 to 16,000 acre-feet in a 1994 study, previously estimated to range from 3,200 to 6,400 acre-feet in a 1980 study (DWR 2004). Groundwater storage in the Table Mountain Formation aquifer was estimated to range from 84,000 to 169,000 acre-feet in the aforementioned 1980 study (DWR 2004).

The Jacumba Valley Groundwater Basin is recharged through infiltration of water from the Boundary Creek and Flat Creek drainages. Recharge from Boundary Creek was calculated to be about 982 acre-feet/year in 1994, while recharge from runoff in Flat Creek and Boundary Creek was calculated at about 2,700 acre-feet/year in 1980 (DWR 2004). Groundwater usage within the basin was estimated at about 810 acre-feet/year in 1994 (DWR 2004). Based on these figures, assuming that conditions have not drastically changed, the rate of recharge to the Jacumba Valley Groundwater Basin is estimated to be greater than the rate of usage (DWR 2004).



DUDEK

6168-01

SOURCE: Hydro - USGS 2008, SanGIS, SANDAG

FIGURE D.12-1

Surface Water Resource Occurring in the Proposed PROJECT Area

East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects - EIR/EIS

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Varying concentrations of sodium chloride, sodium sulfate, calcium chloride, and calcium sulfate characterize the groundwater of the Jacumba Valley Groundwater Basin. Total dissolved solid (TDS) content of groundwater within this basin ranges from approximately 300 to 6,100 milligrams/liter (DWR 2004). In general, groundwater quality tends to degrade northward toward Carrizo Gorge, where TDS content ranges from 2,000 to 6,100 milligrams/liter (DWR 2004). During summer and fall months, groundwater-fed spring water within Carrizo Gorge is typically of poor quality. Groundwater in the Boundary Creek drainage contains TDS concentrations ranging from 292 to 422 milligrams/liter (DWR 2004). TDS content in groundwater within the Flat Creek drainage has been measured as high as 1,640 milligrams/liter.

Other than portions of the ECO Substation Project 138-kilovolt (kV) transmission line, which lies within the boundary of the Jacumba Valley Groundwater Basin, Proposed PROJECT components are in areas where there is no defined groundwater basin. In these areas, groundwater is present in open joints, fractures, and shear zones of the crystalline bedrock or in shallow alluvium.

Floodplains

The Proposed PROJECT would be located on land designated by the Federal Emergency Management Agency (FEMA) as Zone D, where there are possible but undetermined flood hazards**.** Flash flooding can occur in eastern San Diego County, especially in the mountainous areas (SDG&E 2009). Due to the prevalence of dry washes and creeks in the project area, these areas could potentially become flooded during severe thunderstorms.

Dam Failure Inundation Areas

No dams are located upstream in the vicinity of the Proposed PROJECT. The nearest dam, located at El Capitan Reservoir, is approximately 30 miles west of Boulevard Creek.

D.12.1.2 ECO Substation Project

As identified in Table D.12-1, several dry washes, swales, and gullies occur on the ECO Substation yards and Southwest Powerlink (SWPL) Loop-In sites, as shown in Figure D.12-1. These features generally flow east to west across the site and flow to a tributary of Carrizo Creek off site. Several intermittent drainages, desert washes, and swales cross the transmission line corridor that would be considered non-wetland jurisdictional streambeds. Additionally, several National Wetlands Inventory-mapped features occur within the transmission line corridor, including a riverine feature located at Carrizo Creek, two fresh emergent wetlands, and a small lake adjacent to the transmission line corridor. No surface water features were identified at the Boulevard Substation Rebuild site. A geotechnical investigation at the proposed ECO Substation site conducted during winter 2008 did not encounter groundwater during subsurface

explorations. A monitoring well was installed to a depth of 50 feet and was dry as of June 2008 (URS 2008). Though groundwater was not encountered on the site in 2008, in this area of no defined groundwater basin, groundwater may be found in open joints, fractures, and shear zones of the crystalline bedrock or in shallow alluvium. Therefore, groundwater potentially may be encountered at varying depths at relatively close distances. A search conducted by California DWR personnel and a search of the USGS website indicated that no known groundwater wells are within 1 mile of the Proposed PROJECT (SDG&E 2009).

D.12.1.3 Tule Wind Project

The majority of the Tule Wind Project site is within the McCain hydrologic subarea of the Jacumba hydrologic area, within the Anza-Borrego watershed (hydrologic unit). A northern portion of the Tule Wind Project area extends into the Canebrake subarea of the Agua Caliente hydrologic area of the Anza-Borrego watershed. A western portion of the Tule Wind Project area is located west of the Tecate Divide in the San Diego Basin, Tijuana watershed (hydrologic unit), Cameron hydrologic area, where surface waters eventually drain to the Pacific Ocean (Figure D.12-1).

The Tule Wind Project area is drained by several drainage channels as shown in Table D.12-1 and on Figure D.12-1. Two surface water features are located on the Tule Wind Project site: Tule Creek crosses the transmission line route north of the Boulevard Substation and Canebrake Creek crosses the northern portion of the turbine locations. Other water features are near the Tule Wind Project site, as listed in Table D.12-1. A majority of the project drains to the east ultimately discharging into the Salton Sea. Approximately one sixth of the project drains runoff to the west, ultimately discharging into the Pacific Ocean at the Tijuana Estuary (HDR 2010a). A northeastern ridgeline crosses the easterly draining portions of the Tule Wind Project, dividing Salton Sea bound flows southwest into Tule Creek and northeast into Carrizo Wash, Bow Willow Creek, and Canebrake Wash. Tule Creek drains the majority of the southern portion of the project site to the southeast into Tule Lake. Tule Lake drains into Carrizo Wash, and ultimately discharges into the Salton Sea (HDR 2010a). A small portion of the Tule Wind Project along the southeast, in close proximity to Interstate 8 (I-8), is conveyed into Walker Creek on the south side of I-8. Walker Creek conveys flows into Carrizo Wash.

Westerly draining flows are conveyed into La Posta Creek, which conveys flows into Cottonwood Creek, discharging into Lake Morena, which ultimately drains into the Tijuana River and into the Pacific Ocean. Southerly draining flow is conveyed into Miller Creek, which conveys flows into Campo Creek, which then conveys into Tijuana River and into the Pacific Ocean.

Project runoff occurs as sheetflow until it encounters rivulets that discharge into the larger streams (HDR 2010a). Within the Tule Wind Project area, groundwater may occur in open joints, fractures, and shear zones of the crystalline bedrock or in shallow alluvium. Yield from wells drilled within fractured bedrock is typically low. In San Diego County, although the median well yield from 750 wells installed in fractured rock is approximately 15 gallons per minute, production capacities for new wells are difficult to estimate. Installation of higher yielding wells is possible if one or more water-bearing fractures is intersected during well installation (Geo-Logic Associates 2010).

The Tule Wind Project site is not listed within the County of San Diego-designated Groundwater Impacted Basins, per Section 67.721 of the County Groundwater Ordinance (County-designated Groundwater Impacted Basins are basins that have known problems such as overdraft) (Iberdrola Renewables, Inc. 2010).

There are three existing groundwater wells located on Rough Acres Ranch property, owned by Hamann Properties, one of which the Tule Wind Project expects to use as a source for construction water. Based on a review of County of San Diego records, there are no nearby groundwater wells in the proposed operations and maintenance (O&M) building area. Groundwater is anticipated to occur at depth within the fractured crystalline bedrock in the area of the O&M building (Geo-Logic Associates 2010).

D.12.1.4 ESJ Gen-Tie Project

A swale located within the ESJ Gen-Tie Project area, approximately 0.3 mile north of the United States–Mexico border, was determined not to be a tributary to the intermittent stream, Carrizo Creek (Burns & McDonnell 2009). Boulder Creek is located northwest of the project area, approximately 0.4 mile from the proposed gen-tie transmission line (Burns & McDonnell 2009). No water features exist on the ESJ Gen-Tie Project site.

The ESJ Gen-Tie Project is located just east of the Jacumba Valley Groundwater Basin. Public records indicate the closest permitted groundwater well is located approximately 2 miles north of the project site. Depth to groundwater in this well in 1981 was reportedly 90 feet below ground surface (AECOM 2009). No water production wells are located on the project site (AECOM 2009).

D.12.2 Applicable Regulations, Plans, and Standards

This section discusses federal, state, and regional environmental regulations, plans, and standards applicable to the Proposed PROJECT, as well as the Campo, Manzanita, and Jordan wind energy projects. In addition to the federal regulations identified, the Campo and Manzanita wind energy

projects may be subject to the Bureau of Indian Affairs' (BIA's) policies and regulations and tribe-specific policies and plans.

D.12.2.1 Federal Regulations

Clean Water Act

Increasing public awareness and concern for controlling water pollution led to enactment of the Federal Water Pollution Control Act Amendments of 1972. As amended in 1977, this law became commonly known as the Clean Water Act (CWA) (33 U.S.C. 1251 et seq.). The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. The CWA established basic guidelines for regulating discharges of pollutants into the waters of the U.S. The CWA requires that states adopt water quality standards to protect public health, enhance the quality of water resources, and ensure implementation of the CWA.

Section 401 of the Clean Water Act

Section 401 of the CWA requires an applicant for a federal permit, such as the construction or operation of a facility that may result in the discharge of a pollutant into navigable waters, to obtain certification that the proposed activity will comply with state water quality standards (i.e., beneficial uses, water quality objectives, and anti-degradation policy) from the state in which the discharge originates (33 U.S.C. 1341). This process is known as water quality certification. For projects in eastern San Diego County, the Colorado River Basin RWQCB, Region 7, issues Section 401 water quality certifications.

Section 404 of the Clean Water Act

Section 404 of the CWA established a permitting program to regulate the discharge of dredged or filled material into waters of the U.S., which include wetlands adjacent to national waters (33 U.S.C. 1344). This permitting program is administered by the ACOE and enforced by the Environmental Protection Agency (EPA). For more information on Section 404 of the CWA, see Section D.2, Biological Resources, of this Environmental Impact Report/Environmental Impact Study (EIR/EIS).

Section 402 of the Clean Water Act (NPDES)

The National Pollutant Discharge Elimination System (NPDES) permit program, as authorized by Section 402 of the CWA, was established to control water pollution by regulating point sources that discharge pollutants into waters of the U.S. (33 U.S.C. 1342). In the State of California, the EPA has authorized the SWRCB permitting authority to implement the NPDES program. Projects that disturb one or more acres are required to obtain NPDES coverage under

the NPDES General Permit for Storm Water Discharges Associated with Construction Activity, Order No. 99-08-DWQ. The Construction General Permits require the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP describes best management practices (BMPs) the discharger would use to protect stormwater runoff. The SWPPP must contain a visual monitoring program, a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs, and a sediment-monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. On September 2, 2009, the SWRCB issued a new NPDES General Permit for Storm Water Associated with Construction Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002), that became effective July 1, 2010. This new permit requires that construction and demolition sites meet more stringent, measurable (quantitative) standards for discharge management. New requirements include a risk-based permitting approach, Numeric Action Levels and Numeric Effluent Limitations, post-construction standards for discharges, increased BMP requirements, and increased monitoring and reporting requirements.

Safe Drinking Water Act

Congress passed the Safe Drinking Water Act in 1974 to protect public health by regulating the nation's public drinking water supply. The act authorizes EPA to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water.

Per Section 1424(e) of the Safe Drinking Water Act (SDWA), EPA established the Sole Source Aquifer Program in 1977 to help prevent contamination of groundwater from federally funded projects. The Sole Source Aquifer Program allows for EPA environmental review of any project that is financially assisted by federal grants or federal loan guarantees to determine whether such projects would have the potential to contaminate a sole source aquifer (EPA 2010). The drainage to west of the Tecate Divide (within the San Diego Basin) was federally designated in 1993 as the Campo–Cottonwood Sole Source Aquifer (Iberdrola Renewables, Inc. 2010).

The Wellhead Protection Program was developed as a part of the Ground Water Protection Strategy for States and Tribes under the 1986 Amendments to the SDWA. The Wellhead Protection Program includes delineation of Wellhead Protection Program areas, detection of possible contamination, remediation and monitoring of contamination, contamination prevention, and public education and participation.

National Flood Insurance Program

FEMA administers the National Flood Insurance Program (NFIP) under the U.S. Department of Homeland Security. The program encourages the adoption and enforcement by local communities of floodplain management ordinances that reduce flood risks. In support of the

program, FEMA identifies flood hazard areas throughout the United States on FEMA flood hazard boundary maps.

D.12.2.2 State Laws and Regulations

California Fish and Game Code

Sections 1601–1603 of the California Fish and Game Code require a Streambed Alteration Agreement between the CDFG and any entity proposing to substantially divert or obstruct the natural flow or effect changes to the bed, channel, or bank of any river, stream, or lake. The agreement is designed to protect the fish and wildlife values of a river, lake, or stream.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1967 (California Water Code, Section 13000 et seq.) requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect state waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The criteria for the Proposed PROJECT area are contained in the Water Quality Control Plan for the Colorado River Basin Plan, Region 7, adopted by the Colorado River Basin RWQCB on November 17, 1993, and the Water Quality Control Plan for the San Diego Basin adopted by the Colorado River Basin RWQCB with amendments through April 25, 2007.

D.12.2.3 Regional Policies, Plans, and Regulations

Water Quality Control Plans

The RWQCBs govern the protection of surface waters by assessing the attainment of designated beneficial uses and by issuing permits and/or certifications, such as Clean Water Act Section 401 water quality certifications and Section 402 (NPDES) permits. Each RWQCB is responsible for water quality control planning within its region through a Water Quality Control Plan, or Basin Plan. The Proposed PROJECT is subject to the Region 7 (Colorado River Basin) and Region 9 (San Diego) Basin plans.

Municipal Stormwater Permit

On January 24, 2007, the San Diego RWQCB issued an NPDES Municipal Stormwater Permit (Order No. R9-2007-0001) to the County and 20 other cities or jurisdictions in the region. The 2007 permit renews Permit No. CAS0108758, which was previously issued on July 16, 1990 (Order No. 90-42), and renewed on February 21, 2001. The renewed permit requires the development and implementation of BMPs in development planning and construction of private and public development projects. Development projects are also required to include BMPs to

reduce pollutant discharges from the project site in the permanent design. BMPs associated with the final design are described in the Model Standard Urban Storm Water Mitigation Plan. In addition, the County requires an SWMP to describe potential construction and post-construction pollutants and identify BMPs to protect water resources. The San Diego County Department of Planning and Land Use prepared a Low Impact Development Handbook, Stormwater Management Strategies, which includes a comprehensive list of low-impact development planning and stormwater management techniques to assist in complying with the municipal permit (County of San Diego 2007). In addition, the County, in conjunction with other municipalities within the County, has prepared a Countywide Standard Urban Stormwater Mitigation Plan (SUSMP) as required by the San Diego RWQCB NPDES Permit. The SUSMP incorporates low-impact design measures with engineered, small-scale integrated management practices (IMPs) such as bioretention, and provides a single integrated design option that complies with overlapping NPDES permit Low Impact Design requirements, stormwater treatment requirements, and runoff peak-and-duration-control (hydromodification management) requirements (County of San Diego 2010c).

San Diego County Flood Control District

The San Diego County Flood Control District (FCD), formed in 1966 by an act of the State Legislature, is responsible for flood control issues in the unincorporated areas of the County. The FCD protects the land, properties, facilities, and people within the FCD from damage caused by stormwater and flood waters through control of the flood and stormwater. The FCD is also responsible for preserving such waters for beneficial uses, such as water supply, groundwater percolation, recreation, and the environment. The FCD uses its property and facilities, when not immediately needed for the control of flood and stormwater, in a manner beneficial to the general public. The FCD has legal authority to establish flood control and water quality policies, build and maintain recreational facilities within the watercourses of the County, purchase land and build and maintain facilities for the conveyance of stormwater and flood waters, provide flood warning services within the County, repair and restore affected watersheds, provide a water supply to county residents without existing service, and conduct investigations on the local watershed (San Diego County Flood Control District 2010).

San Diego County Code of Regulatory Ordinances, Sections 67.701–67.703, 67.710–67.711, 67.720–67.722, Groundwater Ordinance

The County of San Diego currently manages anticipated future groundwater demand through its Groundwater Ordinance. This ordinance does not limit the number of wells or the amount of groundwater extraction from existing landowners. However, the ordinance does identify specific measures to mitigate potential groundwater impacts of projects requiring specified discretionary permits. Existing land uses are not subject to the ordinance unless a listed discretionary permit is

required. Additionally, Major Use Permits or Major Use Permit Modifications that involve construction of agricultural and ranch support facilities or those involving new or expanded agricultural land uses are among the exemptions from the ordinance. However, the agricultural exemption does not supersede or limit the application of any law or regulation, including California Environmental Quality Act (CEQA). The Groundwater Ordinance separates the County into three areas of regulations: Borrego Valley, Groundwater Impacted Basins, and All Other Projects.

The County of San Diego, Department of Environmental Health, Land and Water Quality Division, regulates the design, construction, modification, and destruction of water wells throughout San Diego County to protect San Diego County's groundwater resources. The project is subject to the requirements of the San Diego County Groundwater Ordinance No. 9826 (new series).

The County of San Diego Board of Supervisors adopted revisions to the County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance on January 13, 2010. The following objectives are stated in Section 67.801 of the Ordinance:

- Prohibit polluted non-stormwater discharges to the stormwater conveyance system and receiving waters
- Establish requirements to prevent and reduce pollution to water resources
- Establish requirements for development project site design to reduce stormwater pollution and erosion
- Establish requirements for the management of stormwater flows from development projects to prevent erosion and to protect and enhance existing water-dependent habitats
- Establish standards for the use of off-site facilities for stormwater management to supplement on-site practices at development project sites
- Establish notice procedures and standards for adjusting stormwater and non-stormwater management requirements where necessary (County of San Diego 2010b).

D.12.3 Environmental Effects

D.12.3.1 Definition and Use of CEQA Significance Criteria/Indicators under NEPA

The following significance criteria are based on the CEQA Checklist in Appendix G to the CEQA Guidelines (14 CCR 15000 et seq.). Water resource impacts would be considered significant if the project would:

- Violate any water quality standards or waste discharge requirements, create new sources of polluted runoff, or otherwise substantially degrade water quality
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)
- Place within a watercourse or flood hazard area structures that would impede or redirect flood flows, or otherwise 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 that would result in substantial erosion or siltation on site/off site
- Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site/off site, or otherwise create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems
- Result in or subject to damage from inundation by mudflow
- Result in substantial erosion or the loss of topsoil
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, including County floodplain maps
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam
- The projects are subject to the Watershed Protection, Stormwater Management, and Discharge Control Ordinance.

D.12.3.2 Applicant Proposed Measures

ECO Substation Project

SDG&E proposed Applicant Proposed Measures (APMs) ECO-HYD-1 (compensation for permanent impacts to waters of the U.S. and state-only waters) and ECO-HYD-2 (monitoring of existing wells within 0.5 mile of potential new wells) in the August 2009 PEA to reduce impacts related to water resources (see Section B.3.4, ECO Substation Project Applicant Proposed Measures, of this EIR/EIS).

Tule Wind Project

Pacific Wind Development proposed APMs TULE-HYD-1 through TULE-HYD-5, which include project design specifications, in the April 2010 Environmental Document to reduce impacts related to water resources (see Section B.4.4, Tule Wind Project Applicant Proposed Measures, of this EIR/EIS).

ESJ Gen-Tie Project

Energia Sierra Juarez (ESJ) U.S. Transmission, LLC, did not propose APMs to reduce impacts related to water resources.

Campo, Manzanita, and Jordan Wind Energy Projects

At the time this EIR/EIS was prepared, the project proponents for these three wind energy projects have not developed project-specific APMs.

D.12.3.3 Direct and Indirect Effects

Table D.12-2 lists the impacts and classifications of the impacts under CEQA identified for the Proposed PROJECT. Cumulative effects are analyzed in Section F of this EIR/EIS.

Table D.12-2
Water Resource Impacts

Impact No.	Description	Classification
ECO Substation–Water Resource Impacts		
ECO-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
ECO-HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
ECO-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
ECO-HYD-4	The project could deplete local water supplies.	Class II
ECO-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
ECO-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or expose people or structures to significant risk.	Class II
ECO-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
ECO-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	No Impact
Tule Wind–Water Resource Impacts		
TULE-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
TULE-HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
TULE-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
TULE-HYD-4	The project could deplete local water supplies.	Class II

Table D.12-2 (Continued)

Impact No.	Description	Classification
TULE-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
TULE-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or expose people or structures to significant risk.	Class II
TULE-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
TULE-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	Class III
ESJ Gen-Tie–Water Resource Impacts		
ESJ-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
ESJ-HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
ESJ-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
ESJ-HYD-4	The project could deplete local water supplies.	Class III
ESJ-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
ESJ-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or expose people or structures to significant risk.	Class III
ESJ-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
ESJ-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	No Impact
Proposed PROJECT (COMBINED–including Campo, Manzanita, and Jordan Wind Energy))		
HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
HYD-4	The project could deplete local water supplies.	Class II
HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or expose people or structures to significant risk.	Class II
HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	Class III

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact HYD-1: Construction activity could degrade water quality due to erosion and sedimentation.

ECO Substation Project

Construction of the ECO Substation would require a substantial amount of grading to develop a level substation site. The existing vegetation would be removed during grading activities, and soils would be disturbed, making the site more susceptible to wind and water erosion. Vehicles

and equipment are prone to tracking soil and/or spoil from work areas to paved roadways, which is another form of erosion. Construction would occur in several phases, each with different potential impacts to water quality. During the grading phase or below-grade work, soils would be disturbed, moved, and transported within the site. This phase of construction would have the highest potential for wind and water erosion. Erosion and subsequent sedimentation can adversely affect water quality by transporting pollutants (such as heavy metals, organic compounds, trash and debris, oil, and grease) to downstream resources. Surface water resources on the ECO Substation site are listed in Table D.12-1 and include unnamed dry washes that drain into Carrizo Creek. Sediment can cause turbidity, smother riparian habitat, impair recreational uses, and transport pollutants of concern on and off site. Water trucks, used frequently during this phase of construction to assist with soil compaction and abate fugitive dust, would also have the potential to cause erosion and sedimentation.

Water quality concerns during construction of the 138 kV transmission line and installation of the SWPL Loop-In would be similar to those for the ECO Substation, but to a lesser degree. Grading may be required at some pole or structure sites and for access or spur roads, but the amount of ground disturbance would be relatively small at each pole or structure location. Surface water resources that cross the 138 kV transmission line route are listed in Table D.12-1 and include Carrizo Creek, Boundary Creek, a wetland, and unnamed dry washes that drain into Carrizo Creek or Lake Domingo.

The existing Boulevard Substation would be rebuilt on an 8.5-acre parcel adjacent to the eastern boundary of the existing substation. The existing Boulevard Substation would be demolished and removed from service once the rebuilt substation is energized. The substation would be stabilized with road base or gravel prior to installing the substation's new equipment. The potential for impacts to water quality are similar to those described for the ECO Substation, but to a lesser degree due to the size and scope of the work to be performed. Surface water resources in the Boulevard Substation area are listed in Table D.12-1 and include unnamed dry washes that drain into Carrizo Creek. There are no surface water resources at the Boulevard Substation site. One unnamed creek would be temporarily trenched during construction of an underground section of the 138 kV transmission line just south of the Boulevard Substation.

The ECO Substation Project would directly impact a total of approximately 159 acres (49 acres temporarily impacted during construction, plus 110 acres permanently impacted), which would cause adverse impacts to water quality on site and indirectly downstream of the project due to increased erosion and sedimentation.

Implementation of Mitigation Measure HYD-1, which includes measures to prevent significantly altering drainage patterns or increasing erosion or siltation, and Mitigation Measure GEO-1,

which requires the preparation and implementation of an Erosion Control and Sediment Transport Control Plan (see Section D.13.3.3, Geology and Mineral Resources Impact Analysis), would mitigate for adverse impacts, because these measures would ensure the ECO Substation Project would comply with federal, state, and County of San Diego water pollution control laws and prepare and implement project-specific stormwater and erosion control plans. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

MM HYD-1 A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared to reduce soil erosion during construction. In compliance with the new SWRCB's NPDES General Permit for Storm Water Associated with Construction Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, effective July 1, 2010), the applicant shall prepare a project-specific SWPPP before construction begins, and it shall be kept on site throughout the construction process. The SWPPP shall include the following:

- Identification of pollutant sources and non-stormwater discharges associated with construction activity.
- Specifications for BMPs that will be implemented during project construction to minimize the potential for accidental releases and runoff from the construction areas, including temporary construction yards, pull sites, and helicopter landing zones. Specifications shall include:
  - A plan for training construction crews
  - A plan for monitoring and inspecting BMPs and site conditions
  - A plan for sampling and analysis of pollutants (as necessary).
- Where applicable, the following shall apply:
  - Construction impacts shall be minimized to the greatest extent possible
  - Upon completion of construction phases, roadways shall be reduced to minimum widths needed
  - Areas disturbed during construction shall be revegetated to their natural states
  - Construction roadways shall follow natural contours to the extent practical and be designed to minimize stream crossings, avoid wetlands, and maintain surface water runoff patterns to prevent erosion

  - CDFG guidelines for culverts shall be followed to minimize long-term maintenance and meet a 10-year rain event to minimize trapping of sediment.

- Where applicable, the following shall apply to reduce the release of contaminants to the local surface and groundwater:
  - For on-site storm drain inlets, mark all inlets with the words "No Dumping! Flows to Sensitive Habitat" or similar.
  - For landscaping, show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained. Show self-retaining landscape, if any. State that final landscape plans will preserve existing native trees, shrubs, and ground cover will cover maximum extent possible.
  - Design landscaping to minimize irrigation, runoff, and use of pesticides and fertilizers that contribute to stormwater pollution. Select plants that are appropriate for site soils, slopes, climate, wind, sun, rain, land use, ecological consistency, and plant interactions.
  - For outdoor storage of equipment or materials, show storage areas and how they will be covered and what structural features or grading will be incorporated to prevent pollutants from discharging from the site.
  - Designate areas for vehicle/equipment repair, maintenance, and cleaning, and document how these areas will be contained to prevent pollutant runoff.
  - For leaking or failure of large power transformers, have 100% containment at each power transformer.

Tule Wind Project

Construction and decommissioning of the Tule Wind Project would expose severely erodible soils on steep slopes due to ground surface disturbance, heavy equipment traffic, and alteration of surface runoff patterns. Additionally, weathering of freshly exposed soils from trenching, foundation excavation, or access road construction can release various chemicals through oxidation and leaching processes. These activities can then affect the surface water and groundwater quality of down-gradient locations. The Tule Wind Project would directly impact a total of approximately 768 acres (224 temporary acres during construction only and 544 acres of permanent impacts), which would result in adverse impacts on water quality on site and indirectly off site due to increased erosion and sedimentation. Implementation of Mitigation Measures HYD-1 and GEO-1 would mitigate impacts to water quality due to erosion and

sedimentation for the same reasons as described previously under the ECO Substation Project. Under CEQA, impacts to water quality due to erosion or sedimentation caused by construction or decommissioning activities would be significant but would be mitigated to a level that is considered less than significant (Class II).

ESJ Gen-Tie Project

The ESJ Gen-Tie Project site does not include steep slopes. Construction of the ESJ Gen-Tie Project would result in minimal adverse loss of topsoil and soil erosion due to grading necessary to install between three to five poles, with a total impact of approximately 9.6 acres (0 temporary acres during construction and 9.6 acres of permanent impacts). Impacts to erosion and water quality during construction would be temporary and mitigated through implementation of Mitigation Measures HYD-1 and GEO-1 for the same reasons as described previously under the ECO Substation Project. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Proposed PROJECT

The Proposed PROJECT would impact approximately 938 acres (273 temporary acres during construction only and 665 acres of permanent impacts), which could impact water quality due to increased erosion and sedimentation. Construction of the Proposed PROJECT would expose severely erodible soils on steep slopes due to ground surface disturbance, heavy equipment traffic, or alteration of surface runoff patterns. Additionally, weathering of freshly exposed soils from trenching, foundation excavation, or access road construction can release various chemicals through oxidation and leaching processes. These activities can then cause adverse impacts to the surface and groundwater quality of down-gradient locations. Construction of the proposed Campo, Manzanita, and Jordan wind energy projects would also require grading and excavation, and, therefore, would also contribute to erosion and sedimentation in the Proposed PROJECT area. Over time, sediment from multiple projects would be expected to eventually accumulate in downstream water-bodies, such as Tule Lake, and ultimately the Salton Sea to the east; and the Morena Reservoir and Barrett Lake, and ultimately to the Pacific Ocean to the west. However, potential impacts from erosion and sedimentation are regulated by multiple entities including Regional Water Quality Control Boards, the Clean Water Act, U.S. Army Corps of Engineers, California Department of Fish and Game, etc. The Proposed PROJECT, including the proposed Campo, Manzanita, and Jordan wind energy projects would be required to comply with the applicable permits and regulations that require implementation of specific measures to prevent soil erosion and sedimentation from entering local waterways. Such measures are anticipated to include stoppage of work and use of physical barriers to prevent sedimentation from flowing off site during periods of extended rainfall. These measures would reduce the impact of individual projects. Additionally, it is anticipated that the Jordan wind energy project would be built after

the Proposed PROJECT has been completed. Therefore, with implementation of Mitigation Measures HYD-1 and GEO-1 for the Proposed PROJECT, the potential impact to water quality due to sedimentation from construction activities from the Proposed PROJECT when combined with the effects of the three proposed wind projects would be adverse but mitigated, and under CEQA would be mitigated to be less than significant (Class II).

Impact HYD-2: Construction activity could degrade water quality through spills of potentially harmful materials.

ECO Substation Project

Construction activities to be performed at the ECO Substation Project site could cause the accidental release of hazardous materials used during construction, such as diesel fuel, hydraulic fluid, oils and grease, and concrete. Weathering of freshly exposed soils from trenching, foundation excavation, or access road construction can release various chemicals through oxidation and leaching processes. Additionally, as described in Section D.4, Land Use, existing land uses in the project area include a mixture of general rural uses such as agricultural and farming that could result in residual pesticide and herbicide contamination of the soil, the release of which during soil disturbance could result in adverse impacts to water quality. Implementation of Mitigation Measures HYD-1 and GEO-1, as well as HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b, would mitigate for these impacts by ensuring that construction activities would comply with federal, state, and County of San Diego water pollution control laws, These measures would also mitigate for impacts by ensuring that a site-specific SWPPP and an Erosion Control and Sediment Transport Control Plan, along with various hazardous materials management plans, would be prepared and implemented to prevent the inadvertent release of hazardous materials and to provide measures for containment and cleanup in the event of a spill. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Tule Wind Project

Construction and decommissioning activities to be performed at the Tule Wind Project site could result in adverse impacts through the accidental release of hazardous materials used during construction and decommissioning, similar to those described for the ECO Substation Project. Implementation of Mitigation Measures HYD-1, GEO-1, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b would mitigate for adverse impacts for the same reasons as described for the ECO Substation Project. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

ESJ Gen-Tie Project

Construction activities to be performed at the ESJ Gen-Tie Project site could result in adverse impacts through the accidental release of hazardous materials used during construction, similar to those described for the ECO Substation Project. Implementation of Mitigation Measures HYD-1, GEO-1, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b would mitigate for adverse impacts for the same reasons as described for the ECO Substation Project. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Proposed PROJECT

Construction activities to be performed at the Proposed PROJECT site, as well as the proposed Campo, Manzanita, and Jordan wind energy project sites could result in adverse impacts through the accidental release of hazardous materials used during construction, such as diesel fuel, hydraulic fluid, oils and grease, and concrete. Weathering of freshly exposed soils from trenching, foundation excavation, or access-road construction can release various chemicals through oxidation and leaching processes. Additionally, as described in Section D.4, existing land uses in the project area include a mixture of general rural uses such as agricultural and farming that could result in residual pesticide and herbicide contamination of the soil, the release of which during soil disturbance could result in water quality contamination. However, each project would be subject to laws and regulations requiring that the projects prepare specific SWPPPs, Hazardous Materials Management Plans, and Health and Safety Programs. Adherence to all applicable requirements would reduce the likelihood that a spill would occur, and, in the event of an accidental spill, ensure that proper measures would be taken to contain and clean up the spill on site. Therefore, with implementation of Mitigation Measures HYD-1, GEO-1, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b and adherence to laws and regulations developed to control such potential impacts, impacts would be adverse but mitigated, and under CEQA would be mitigated to be less than significant (Class II).

Impact HYD-3: Excavation could degrade groundwater quality in areas of shallow groundwater.

ECO Substation Project

Excavation activities could contaminate groundwater through accidental material spills. This adverse impact is unlikely to occur because groundwater in the location of the project is typically deeper than the expected depth of excavation (the maximum excavation depth would be 25 feet). However, the possibility remains of encountering groundwater in areas of underground springs and in the vicinity of groundwater wells. Implementation of Mitigation Measure HYD-2, along with Mitigation Measures HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b, would mitigate

impacts by ensuring that construction activities would avoid groundwater resources where feasible and comply with federal, state, and County of San Diego water pollution control laws. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

MM HYD-2 Avoidance and preventative measures to protect local groundwater during excavation. Prior to excavation, a qualified geologist/hydrologist shall determine the depth of groundwater in areas where excavation would occur. The project shall be designed to avoid areas of shallow groundwater where feasible. In such areas where groundwater cannot be avoided during excavation, the site shall be dewatered during construction, and materials that could contaminate the groundwater shall be kept at least 200 feet from the dewatering activities. An NPDES permit shall be obtained for proper disposal of water. Treatment may be required prior to discharge.

Tule Wind Project

Excavation activities could contaminate groundwater through accidental material spills. Groundwater in the Tule Wind project area occurs in shallow alluvium or at depth within fractures in the crystalline bedrock. Construction and decommissioning activities of the Tule Wind Project are expected to necessitate excavation to a depth of no more than 25 feet. Degradation of groundwater resulting from excavation is unlikely to occur primarily for the reason that groundwater in the project area is not expected to be encountered at the depths of excavation necessary for the project. However, the possibility of adverse impacts resulting from contamination of groundwater in areas of underground springs or shallow alluvium remains. Implementation of Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b would mitigate adverse impacts for the same reasons as described for the ECO Substation Project. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

ESJ Gen-Tie Project

Excavation activities could contaminate groundwater through accidental material spills. This impact is unlikely to occur primarily for the reason that groundwater in the project area is not expected to be encountered at the depths of excavation necessary for the project. However, the possibility of adverse impacts to groundwater in areas of underground springs remains. Implementation of Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b would mitigate impacts for the same reasons as described for the ECO Substation Project. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Proposed PROJECT

Excavation activities could contaminate groundwater through accidental material spills. This impact is unlikely to occur primarily for the reason that groundwater in the Proposed PROJECT area is not expected to be encountered at the depths of excavation necessary for the Proposed PROJECT, including the proposed Campo, Manzanita, and Jordan wind energy projects. However, the possibility of adverse impacts to groundwater in areas of underground springs remains. Implementation of Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b would mitigate impacts for the same reasons as described for the ECO Substation Project. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-4: The project could deplete local water supplies.

ECO Substation Project

Dewatering, the removal of groundwater from an excavation during construction, could result in a local and temporary drawdown of groundwater levels, temporarily reducing the yield of nearby water supply wells. The proposed maximum excavation depth for construction is 25 feet below land surface and, as described for Impact HYD-3, it is unlikely that groundwater would be encountered during project construction. Where dewatering would be necessary, it would be for limited locations and for short durations during project construction. Therefore, impacts associated with groundwater depletion due to dewatering would not be adverse and, under CEQA, impacts would be considered less than significant (Class III).

Construction of the ECO Substation Project would require the use of approximately 30 million gallons of water during construction. This water would likely be obtained by purchasing water from a water purveyor and/or drilling wells in the vicinity of the ECO Substation. Confirmation has been provided that the Sweetwater Authority in Chula Vista has sufficient water capacity to provide 25-million gallons of water to the ECO Substation Project during project construction (Adam 2010). Should construction water be obtained using on-site wells, the well permitting, drilling, and installation would be done in accordance with the State of California and County of San Diego environmental health requirements. The rate of recharge to the Jacumba Valley Groundwater Basin is estimated to be greater than the rate of usage, based on studies completed in 1980 and 1994 (DWR 2004). Most of the project groundwater use would be for dust suppression; while the majority of this water would evaporate, it is possible that a very small portion of the water would infiltrate. The use of groundwater during construction of the Proposed ECO Substation Project could have adverse impacts on groundwater levels and thereby impact productivity of wells in the vicinity. There are no known groundwater wells within 1 mile of the proposed ECO Substation Project. Implementation of Mitigation Measure HYD-3 would

mitigate impacts to groundwater within the project area by ensuring that groundwater availability would not be adversely affected. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

MM HYD-3 Identification of sufficient water supply. Prior to construction, the applicant will prepare comprehensive documentation that identifies one or more confirmed, reliable water sources that when combined meet the project's full water supply construction needs. Documentation will consist of the following:

Preparation of a groundwater study. For well water that is to be used, the applicant will commission a groundwater study by a qualified hydrogeologist to assess the existing condition of the underlying groundwater/aquifer and all existing wells (with owner's permission) in the vicinity of proposed well location/water sources. The groundwater study will evaluate aquifer properties and aquifer storage. The groundwater study will estimate short- and long-term well water supplies from each well proposed to be used, and documentation indicating that each well is capable of producing the total amount of water to be supplied for construction from each well. The groundwater study will estimate short- and long-term impacts of the use of the well(s) on the local groundwater production (short-term extraction for construction water and ongoing O&M water), on all project wells, and on other wells in the project area. The groundwater study will include an assessment of the potential for subsidence brought on by project-related water use in the area. The applicant will provide demonstration of compliance with all applicable laws and regulations and will obtain a County of San Diego Major Use Permit for use of any proposed well prior to construction.

Documentation of Purchased Water Source(s). For water that is to be purchased from one or more water/utility district(s), the applicant shall provide written documentation from such district(s) indicating the total amount of water to be provided and the timeframe that the water will be made available to the project. (For possible water district sources, refer to project-specific mitigation measures in the MMRP.)

Total confirmed water supplies from the combination of above documented sources shall equal the total gallons of water needed through construction of the project.

A water tank holding approximately 120,000 gallons of water would be maintained on the ECO Substation site for use during O&M. The water would primarily be used for temporary landscape

irrigation, fire protection, and other standard facility uses. Monthly water use would range from 180 to 750 gallons of water, depending on the time of year and weather conditions. The water would be obtained from permitted municipal sources, groundwater sources, or a combination of both. Because the rate of surface recharge to the Jacumba Valley Groundwater Basin exceeds the amount used per year, the small volume of water required for O&M would not have an adverse effect on the existing groundwater supply should it be obtained from the on-site well. Under CEQA, long-term impacts to groundwater supplies would be less than significant (Class III).

Tule Wind Project

As described for Impact HYD-3, it is not likely that groundwater would be encountered during excavation for project construction, making impacts to groundwater due to dewatering unlikely. Where dewatering would be necessary, it would be for limited locations and for short durations. Therefore, adverse impacts associated with groundwater depletion would not occur due to dewatering during construction. Under CEQA, impacts would be considered less than significant (Class III).

Construction of the Tule Wind Project is estimated to require approximately 17,512,000 gallons of water to support the water needs of the project for dust suppression and concrete mixing. Over a period of 60 to 72 days, when maximum road watering and foundation construction would occur simultaneously, the project would require the use of up to 250,000 gallons of water per day, requiring continuous pumping of 124 gallons per minute (24-hours per day, seven days per week) to support the water needs of the project for dust suppression and concrete mixing. The project is planning to obtain water from two wells, one on Rough Acres Ranch, and the other on the Ewiiaapaayp Reservation, and will be submitting a Major Use Permit for water extraction. The project has also received written confirmation from the Jacumba Community Service District (Lindenmeyer 2010) and Live Oak Springs Water Company (Najor 2010) of water supplies available to provide construction water to the project**.** Implementation of Mitigation Measure HYD-3 would ensure that impacts to the local groundwater during construction would not be adverse because these measures would ensure verification that sufficient groundwater existed prior to use of the three wells and that groundwater availability would not be affected throughout project construction. Under CEQA, impacts would be significant but would be mitigated to a less-than-significant level (Class II).

During the decommissioning phase of the project, impacts would be less than the construction phase of the project, as no water will be required for concrete mixing. However, water may be required for dust suppression throughout the decommissioning phase. Prior to termination of the ROW authorization, a decommissioning plan will be developed and approved by BLM and San Diego County. The decommissioning plan would require similar measures as described under Mitigation Measure HYD-3. Therefore, impacts would be considered adverse but mitigable, and

under CEQA would be considered significant but can be mitigated to a level that is considered less than significant (Class II).

The O&M building would require the construction of a groundwater well to provide up to 5 gallons per minute of potable water for the operational phase of the Tule Wind Project. The O&M building would use approximately 2,500 gallons of water per day for employee water and sewer uses. Impacts to groundwater supply from operations and maintenance of the O&M building would not be adverse and under CEQA would be considered less than significant (Class III). Once construction is complete and the Tule Wind Project is operational, no other portions of the Tule Wind Project would require water use.

ESJ Gen-Tie Project

As described for Impact HYD-3, it is not likely that groundwater would be encountered during project construction. Where dewatering would be necessary, it would be for limited locations and for short durations. Impacts associated with groundwater dewatering would not be adverse, and under CEQA are considered less than significant (Class III).

Construction of the ESJ Gen-Tie Project would require the use of approximately 780,000 gallons of water during the 6-month construction period. The project plans to obtain this water from an off-site groundwater well owned by the Jacumba Community Services District located on the western edge of the Community of Jacumba, approximately 4 miles west of the project site. Tests indicate that the well is capable of producing approximately 600 gallons per minute. The project's production rate from the well would average approximately 3 gallons per minute over the 6-month construction period. The amount of drawdown projected from the anticipated rate of pumping is estimated to be minimal in the closest actively used well in the community of Jacumba (Bennett 2010). Therefore, impacts to groundwater supplies would not be adverse. Under CEQA, impacts to groundwater supplies as a result of construction-related groundwater use would be considered less than significant (Class III).

During O&M, the ESJ Gen-Tie Project is not expected to need a permanent supply of water. Therefore, no adverse impact would occur to the local groundwater supply as a result of O&M activities of the ESJ Gen-Tie Project, and under CEQA, impacts would be considered less than significant (Class III).

Proposed PROJECT

As described for Impact HYD-3, it is not likely that groundwater would be encountered during project construction, and impacts of the Proposed PROJECT to groundwater due to dewatering would be unlikely. Where dewatering would be necessary, it would be for short durations. Implementation of the Campo, Manzanita, and Jordan wind energy projects would have the same

likelihood of encountering groundwater during construction, assuming that they would not be excavating or trenching to the depth of groundwater resources, or where substantial excavation were necessary it would be for limited areas and short durations. Therefore, impacts associated with groundwater depletion due to dewatering would not be adverse, and under CEQA are considered less than significant (Class III).

Construction of the Proposed PROJECT would require the use of up to 50 million gallons of water during construction for dust suppression, grading, and concrete mixing. The water would come from local groundwater and imported water supplies. In order to be conservative, it was assumed that the proposed Campo, Manzanita, and Jordan wind energy projects would be constructed in the project area during the same relative time period as the Proposed PROJECT. Construction of these three wind projects would require water for similar activities as the Proposed PROJECT. The mitigation provided for the Proposed PROJECT would include an evaluation of groundwater resources as well as monitoring, which would capture any groundwater impacts that may occur for any of the projects being constructed at the same time, including the proposed Campo, Manzanita, and Jordan wind energy projects. If the groundwater study indicates that the Projects' use of groundwater would adversely affect groundwater supplies, or monitoring of groundwater wells during construction indicates that use of groundwater is adversely affecting local groundwater supplies, water shall be purchased from other water sources and local pumping of groundwater supplies would halt. Therefore, with implementation of Mitigation Measure HYD-3, impacts related to the Proposed PROJECT and the proposed Campo, Manzanita, and Jordan wind energy projects would be adverse but mitigated, and under CEQA would be mitigated to less than significant (Class II).

During O&M, the Proposed PROJECT, including the proposed Campo, Manzanita, and Jordan wind energy projects would use local water supplies for temporary irrigation, fire protection, and other standard facility uses. The relatively small amount of water used for ongoing O&M would not exceed the excess recharge in the area and would, therefore, not result in adverse impacts to local groundwater supplies. Under CEQA, impacts to the local groundwater from the project O&M would be considered less than significant (Class III).

Impact HYD-5: Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.

ECO Substation Project

Construction of the ECO Substation would result in permanent impacts to 85.9 acres and would include changes to the drainage patterns within the substation limits when compared to preconstruction flows. During site grading, natural rills, gullies, and swales would be filled in to make the site flat. Runoff would continue to flow from east to west in the vicinity of the

substation until it reaches Carrizo Wash. A slight alteration of drainage patterns would occur immediately upslope and downslope of the ECO Substation. The project includes features such as above-grade concrete drainage swales, underground conveyance, and concrete catch basins to capture and redirect flow across the substation site to two retention/detention basins sized to meet federal, state, and County of San Diego stormwater quality requirements. The concrete or asphalt drainage swales would be approximately 12 inches deep and would generally collect stormwater along the tops and toes of slopes, as well as required benches in the slopes. Other swales may be located in the drive lanes within the substation and may drain to concrete catch basins also located within the drive lanes. If below-grade conveyance pipes are used, they would be of adequate size for the flows anticipated and would then connect with the swales outside the substation and direct flow into two retention/detention basins. The retention/detention basins would promote infiltration and control discharge rates and volumes. As shown on Figure B-3, ECO Substation Permanent and Temporary Footprint, the retention/detention basins would be located west and northwest of the ECO Substation facility and would be approximately 1.2 and 1.9 acres, respectively.

After the below-grade work has been completed, road-base or gravel would be used to stabilize the surface within the substation limits. During the second phase of substation construction (or the above-grade phase), the site would be relatively flat, promoting infiltration and decreasing runoff volume. The site would be stabilized with road-base or gravel to minimize wind and water erosion and reduce tracking. Once constructed, the ECO Substation site would include approximately 60.2 acres of impervious surface.

Along the SWPL Loop-In and the 138 kV transmission route, the water flow direction at each pole may change due to minor grading required to access the site and install each pole. Permanent impacts to approximately 1.74 acres would result due to construction of the SWPL Loop-In and 138 kV transmission line. Another 8.45 acres would be permanently impacted due to construction of access roads. Once constructed, the SWPL Loop-In and the 138 kV transmission route would include approximately 1.5 acres of impervious surface.

The existing Boulevard Substation would be rebuilt on an 8.5-acre parcel adjacent to the eastern boundary of the existing substation. The existing Boulevard Substation would be demolished and removed from service once the rebuilt substation is operational. Rebuilding the substation would alter the existing drainage patterns in the area. The rebuilt substation would be stabilized with road-base or gravel prior to installing the substation's new equipment. The potential for impacts to water quality are similar to those described for the ECO Substation, but to a lesser degree due to the size and scope of the work to be performed. A proposed runoff diversion wall would direct off-site water runoff around the substation site via a concrete-lined channel along the western side of the substation. A smaller drainage ditch would collect water behind the wall and along

the south and eastern edge of the substation site. A detention basin would be constructed north of the substation and between the main access road and alternative access road that would capture runoff from the substation and access roads (SDG&E 2010). Once complete, the Boulevard Substation would result in approximately 3.2 acres of impervious area.

Once constructed, the ECO Substation Project would include approximately 73 acres of impervious surface. Implementation of Mitigation Measure HYD-4 would mitigate impacts due to increased runoff, because it would ensure measures are taken to prevent significantly altering drainage patterns or increase erosion or siltation. Under CEQA impacts would be mitigated to less-than-significant levels (Class II).

MM HYD-4 Preparation of a Stormwater Management Plan. The applicant shall commission an SWMP in compliance with the County of San Diego Major Storm Water Management Plan. The SWMP shall be project specific and developed in conjunction with project design. The SWMP shall include site design best management practices that, where applicable, shall:

- Maintain predevelopment rainfall runoff characteristics. The BMPs shall:
  - Locate the project and road improvement alignments to avoid or minimize impacts to receiving waters or to increase the preservation of critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions
  - Minimize the project's impervious footprint
  - Conserve natural and critical areas, such as floodplains, steep slopes, wetlands, and areas with erosive and unstable soil conditions
  - Where landscape is proposed, drain rooftops, impervious sidewalks, walkways, trails, and patios into adjacent landscaping
  - Design and locate roadway structures and bridges to reduce the amount of work in live streams and minimize the construction impacts
  - Implement the following methods to minimize erosion from slopes:
    - Disturb existing slopes only when necessary
    - Minimize cut-and-fill areas to reduce slope lengths
    - Incorporate retaining walls to reduce steepness of slopes or to shorten slopes

        - Provide benches or terraces on high cut-and-fill slopes to reduce concentration of flows
        - Round and shape slopes to reduce concentrated flow
        - Collect concentrated flows in stabilized drains and channels.
    - Protect slopes and channels. The BMPs shall:
        - Minimize disturbances to natural drainages
        - Convey runoff safely from the tops of slopes
        - Vegetate slopes with native or drought-tolerant vegetation
        - Stabilize permanent channel crossings
        - Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion; energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters
        - Include other design principles that are comparable and equally effective.

The SWMP shall also incorporate low-impact development features into the project, including but not limited to:

- Preserve well-draining soils (Type A or B)
- Preserve significant trees
- Set back development envelope from drainages
- Restrict heavy construction equipment access to planned green/open space areas
- Re-till soils compacted by construction vehicles/equipment
- Collect and reuse upper soil layers of development site containing organic materials
- Curb cuts to landscaping
- Use rural swales
- Use concave median
- Use permeable pavements

- Pitch pavements toward landscaping
- Use cisterns and rain barrels
- Downspout to swale
- Use vegetated roofs
- Use soil amendments
- Reuse native soils
- Use smart irrigation systems
- Use street trees (HDR 2009b).

The SWMP shall ensure that the project follows CDFG guidelines for culverts to minimize long-term maintenance and meet a 10-year rain event to minimize the trapping of sediment.

The San Diego County Department of Public Works shall ensure that the SWMP is implemented as proposed.

Tule Wind Project

Construction of the Tule Wind Project O&M/Substation facility would be on a 10-acre site and would include concrete pads for the facility foundations and electrical transformers. Areas not covered by concrete pads, such as the parking area, would be surfaced with gravel to minimize changes in runoff and erosion. Concrete foundations for turbines and transmission towers would also be impervious surfaces that would alter existing drainage patterns that could potentially result in an increase in erosion and siltation. The turbines associated meteorological towers and sonic detecting and ranging (SODAR) unit, collector substation, and O&M facility combined would create approximately 41 acres of impervious surface. The project would also include approximately 166 acres of permanent impacts associated with access roads, staging area, and parking that would not be paved but would be maintained as semipermeable surfaces. Due to overall small impervious surface area created by the proposed Tule Wind Project, the existing drainage patterns would not be adversely affected (HDR 2010a). The Preliminary Drainage Report prepared for the Tule Wind Project was completed per the June 2003 San Diego County Hydrology Manual. Implementation of Mitigation Measure HYD-4, which provides further clarification and supersedes APMs TULE-HYD-1, TULE-HYD-2, TULE-HYD-3, and TULE-HYD-4, would ensure that any increased runoff and impacts due to drainage pattern alteration or increased erosion or siltation would not be adverse. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

ESJ Gen-Tie Project

Some features of the ESJ Gen-Tie Project, such as tower foundations and access roads, include impervious and semi-impervious surfaces that could alter existing drainage patterns and potentially result in an increase in surface runoff. A maximum of five tower pads would be constructed that would permanently add approximately 750 square feet of impervious surface (Burns & McDonnell 2009). Access roads and parking areas would add another 7.2 acres of semi-pervious areas. The total area occupied by these impervious foundations and semi-pervious access roads would be approximately 7.3 acres, which is not large enough to cause an increase in stormwater runoff that would result in adverse impacts (Burns & McDonnell 2009). However, implementation of Mitigation Measure HYD-4 still applies and would ensure measures are taken to prevent significantly altering drainage patterns or increasing erosion or siltation. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Proposed PROJECT

The Proposed PROJECT would include the construction of impervious surfaces on approximately 114 acres and semi-pervious surfaces on 173 acres. The proposed Campo, Manzanita, and Jordan wind energy projects are also not expected to add considerable impervious areas to the watershed. Proposed PROJECT features that require impervious surfaces include concrete foundations and pads for towers. Semi-pervious surfaces would include access roads and parking areas that would be maintained with gravel. The Campo, Manzanita, and Jordan wind energy projects are expected to have similar project features as the Tule Wind Project that could cause impervious surfaces. These impervious and semi-pervious surfaces would alter existing drainage patterns and potentially result in adverse impacts associated with an increase in surface runoff. However, with implementation of Mitigation Measure HYD-4, impacts would be mitigated by ensuring that measures are taken to prevent significantly altering drainage patterns or increasing erosion or siltation. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-6: Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or expose people or structures to significant risk.

ECO Substation Project

The ECO Substation Project would add structures within existing drainages. Water features on the ECO Substation site that would be adversely impacted include unnamed dry wash tributaries to Carrizo Creek (including 0.5 acre potential jurisdictional desert swale features due to direct fill that are discussed in greater detail in Section D.2, Biological Resources). Implementation of

Mitigation Measures HYD-1 and HYD-6 would ensure that impacts as a result of placing project features in a floodplain or watercourse would be mitigated by ensuring that measures are taken to prevent changes in drainage patterns that would cause flooding. There are no water features on the Boulevard Substation site. Water features that cross the SWLP Loop-In and 138 kV transmission line (with the exception of one unnamed dry wash) would be avoided and include Carrizo Creek, Boundary Creek, and other unnamed dry washes. One unnamed dry wash crosses a 144-foot-long segment of the proposed 138 kV transmission line between Tule Jim Lane and the south end of the Boulevard Substation (Figure D.2-3 in Section D.2 of this EIR/EIS). This water feature is a non-wetland jurisdictional streambed. To install this section of the 138 kV transmission line underground, a trench would be dug approximately 3.5 feet wide and 8 feet deep to install concrete duct bank (Figure B-13 in Section B, Project Description, of this EIS/EIS). Impacts to this jurisdictional resource from installation of the 138 kV transmission line would be considered adverse without implementation of avoidance and mitigation measures. However, implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, and BIO-2a through BIO-2c would mitigate impacts to jurisdictional waters (see Section D.2 of this EIR/EIS). Runoff from project features that are not constructed in water features could alter drainage patterns and result in adverse impacts from flooding off site. With implementation of Mitigation Measures HYD-1 and HYD-4, impacts from project features not constructed in water features would be mitigated because they would ensure measures are taken to prevent construction of on-site features from creating drainage patterns that would result in flooding. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Tule Wind Project

The Tule Wind Project would add structures within areas that include existing drainages. The proposed O&M/substation facility would be built on a 10-acre site that does not include water features. Water features along the Tule Wind overhead transmission line and 138 kV transmission line routes would be avoided. No turbines would be located in a water feature. The underground portion of the cable system that would connect the turbines would cross ephemeral drainages that are non-wetland jurisdictional drainages (see Figures D.2-5, D.2-6, D.2-7, and D.2-8 and discussion in Section D.2 of this EIR/EIS). Trenches would be dug across these drainages during construction to install the collector transmission lines. Impacts to approximately 0.76 acre (0.54 acre temporary and 0.22 acre permanent) of CDFG jurisdictional resources from installation of the transmission lines would be considered adverse without implementation of avoidance and mitigation measures. However, implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, and BIO-2a through BIO-2c would mitigate impacts to jurisdictional waters (see Section D.2 of this EIR/EIS). Runoff from project features that are not constructed in water features could alter drainage patterns and result in adverse impacts from flooding off site.

With implementation of Mitigation Measures HYD-1 and HYD-4, impacts from project features not constructed in water features would be mitigated because they would ensure measures are taken to prevent construction of on-site features from creating drainage patterns that would result in flooding. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

ESJ Gen-Tie Project

There are no water features within the ESJ Gen-Tie Project site (Burns & McDonnell 2009). The proposed ESJ Gen-Tie Project would result in a total maximum impervious area of 750 square feet added to the site by the tower foundations. The ESJ Gen-Tie Project would not locate features within a floodplain or watercourse. As stated previously under Impact HYD-5, the project would not cause a significant increase in surface runoff exiting the project site (Burns & McDonnell 2009). Therefore, the ESJ Gen-Tie Project would not cause adverse impacts. Under CEQA, impacts would be considered less than significant (Class III).

Proposed PROJECT

The Proposed PROJECT would include placing the ECO Substation within existing dry wash tributaries of Carrizo Creek and trenching portions of the electronic transmission system between turbines across ephemeral streams. One unnamed dry wash crosses a 144-foot-long segment of the proposed 138 kV transmission line between Tule Jim Lane and the south end of the Boulevard Substation (see Figure D.2-3 in Section D.2, Biological Resources, of this EIR/EIS). This water feature is a non-wetland jurisdictional streambed. To install this section of the 138 kV transmission line underground, a trench would be dug approximately 3.5 feet wide and 8 feet deep to install a concrete duct bank (see Figure B-13 in Section B, Project Description, of this EIR/EIS). Impacts to this jurisdictional resource from installation of the 138 kV transmission line would be considered adverse without implementation of avoidance and mitigation measures. Additionally, the underground portion of the Tule Wind Project cable system that would connect the turbines would cross ephemeral drainages that are non-wetland jurisdictional drainages (see Figures D.2-5, D.2-6, D.2-7, and D.2-8 in Section D.2 of this EIR/EIS). Trenches would be dug across these drainages during construction to install the collector transmission lines. Impacts to this jurisdictional resource from installation of the transmission lines would be considered adverse without implementation of avoidance and mitigation measures. However, implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, and BIO-2a through BIO-2c would mitigate impacts to jurisdictional waters (see Section D.2 of this EIR/EIS). Where other water features intersect with the Proposed PROJECT site, these features would be avoided. The Campo, Manzanita, and Jordan wind energy projects would not significantly alter the local drainage pattern, but would avoid drainages and floodplains wherever possible, as well as implement mitigation to offset impacts to such resources. Additionally, these three wind projects

would also be required to prepare and implement Stormwater Pollution Prevention Plans and Stormwater Management Plans, and would likely use directional drilling to avoid direct impacts to drainages where crossings of drainages cannot be avoided. As stated previously under Impact HYD-5, project features that do not intersect water features would add impervious surfaces that could indirectly alter the existing drainage patters on the site and thereby result in adverse impacts from flooding off site. However, with implementation of Mitigation Measures HYD-1 and HYD-4, impacts would be mitigated because Mitigation Measures HYD-1 and HYD-4 would ensure measures are taken to prevent construction of on-site features from creating drainage patterns that would result in erosion or flooding during construction and operations. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-7: Accidental releases of contaminants from project facilities could degrade water quality.

ECO Substation Project

As discussed in Section D.10, Public Health and Safety, during O&M of the ECO Substation Project, adverse impacts as a result of the accidental release of hazardous materials used and stored on the site are possible during routine or emergency maintenance or normal operations. However, implementation of Mitigation Measure HAZ-5a, which provides for the preparation and implementation of a Spill Prevention Control and Countermeasures (SPCC) Plan, and Mitigation Measure HAZ-5b, which provides for the preparation and implementation of a Hazardous Materials Business (HMB) Plan, would mitigate impacts of hazardous material spills and releases during O&M. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Tule Wind Project

As discussed in Section D.10, during O&M of the Tule Wind Project, adverse impacts as a result of the accidental release of hazardous materials used and stored on the site are possible during routine or emergency maintenance or normal operations. As discussed for the ECO Substation Project, implementation of Mitigation Measures HAZ-5a and HAZ-5b would mitigate impacts of hazardous material spills and releases during O&M because they would ensure that the project prepare and implement an SPCC Plan and an HMB Plan. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

ESJ Gen-Tie Project

As discussed in Section D.10, during O&M of the ESJ Gen-Tie Project, adverse impacts as a result of the accidental release of hazardous materials used and stored on the site are possible

during routine or emergency maintenance or normal operations. As discussed for the ECO Substation Project, implementation of Mitigation Measures HAZ-5a and HAZ-5b would mitigate impacts of hazardous material spills and releases during O&M because they would ensure that the project prepare and implement an SPCC Plan and an HMB Plan. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Proposed PROJECT

As discussed in Section D.10, during O&M of the Proposed PROJECT, including the Campo, Manzanita, and Jordan wind energy projects, adverse impacts as a result of the accidental release of hazardous materials used and stored on the site are possible during routine or emergency maintenance or normal operations. As discussed for the ECO Substation Project, implementation of Mitigation Measures HAZ-5a and HAZ-5b would mitigate impacts of hazardous material spills and releases during O&M because they would ensure that the project prepare and implement an SPCC Plan and an HMB Plan. Under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-8: Where septic tanks are proposed, such facilities could impact local water quality.

ECO Substation Project

The ECO Substation Project does not propose installing a septic system. Therefore, no impact would occur.

Tule Wind Project

The proposed Tule Wind Project would include construction of a septic system to support the O&M facility. A septic system, if not properly designed, installed, and maintained, could cause adverse impacts to groundwater. However, to install and operate the septic system, the project will comply with all necessary requirements and inspections needed to obtain a permit from San Diego County. The San Diego County Department of Environmental Health will require that prior to installation of a septic system, the project applicant perform a hydrologic and geotechnical study to verify that the area can support a septic system. This will include a determination of depth to groundwater, borings to determine soil type, soil percolation tests to demonstrate suitability of site soils for installation of a leach field, and proper design of the leach field based on percolation tests. With adherence to all applicable laws and regulations relating to septic tank installation and operation, impacts to local groundwater would not be adverse and under CEQA would be less than significant (Class III).

ESJ Gen-Tie Project

The proposed ESJ Gen-Tie Project does not propose installing a septic system. Therefore, no impact would occur.

Proposed PROJECT

The Proposed PROJECT includes installing a septic system in conjunction with the Tule Wind Project O&M facility. While it is not specifically known whether the Campo, Manzanita, and Jordan wind energy projects are planning to use septic systems in the PROJECT area, it is reasonable to assume that due to a lack of a comprehensive wastewater system in the project study area, these three wind projects would likely require septic systems as well. With adherence to all applicable laws and regulations relating to septic tank installation and operation, impacts associated with the septic system would not be adverse. Under CEQA, impacts would be considered less than significant (Class III).

D.12.4 ECO Substation Project Alternatives

Table D.12-3 summarizes the impacts and classification of the impacts under CEQA that have been identified for the ECO Substation Project alternatives.

Table D.12-3
Water Resources Impacts Identified for
ECO Substation Project Alternatives

Impact No.	Description	Classification
ECO Substation Alternative Site		
ECO-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
ECO-HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
ECO-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
ECO-HYD-4	The project could deplete local water supplies.	Class II
ECO-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
ECO-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or they could expose people or structures to significant risk.	Class II
ECO-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
ECO-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	No Impact
ECO Partial Underground 138 kV Transmission Route Alternative		
ECO-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
ECO-HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
ECO-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
ECO-HYD-4	The project could deplete local water supplies.	Class II

Table D.12-3 (Continued)

Impact No.	Description	Classification
ECO-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
ECO-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or they could expose people or structures to significant risk.	Class II
ECO-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
ECO-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	No Impact
ECO Highway 80 138 kV Transmission Route Alternative		
ECO-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
ECO-HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
ECO-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
ECO-HYD-4	The project could deplete local water supplies.	Class II
ECO-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
ECO-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or they could expose people or structures to significant risk.	Class II
ECO-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
ECO-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	No Impact
ECO Highway 80 Underground 138 kV Transmission Route Alternative		
ECO-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
ECO-HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
ECO-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
ECO-HYD-4	The project could deplete local water supplies.	Class II
ECO-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
ECO-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or they could expose people or structures to significant risk.	Class II
ECO-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
ECO-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	No Impact

D.12.4.1 ECO Substation Alternative Site

This alternative would not affect the impact conclusions resulting from implementation of the proposed Tule Wind and ESJ Gen-Tie projects as discussed in Section D.12.3.3.

Environmental Setting/Affected Environment

This alternative would shift the proposed ECO Substation site 700 feet to the east. Under this alternative, fewer un-named drainages would be impacted, but the overall hydrologic setting would be as described in Section D.12.1.

Environmental Impacts/Environmental Effects

Direct and Indirect (*Note: cumulative effects are addressed in Section F of this EIR/EIS*)

Impact HYD-1: Impacts associated with this alternative are expected to be similar to those described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse and mitigable with implementation of Mitigation Measures HYD-1 and GEO-1 and under CEQA would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-2: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse and mitigable with implementation of Mitigation Measures HYD-1, GEO-1, HAZ-1a, HAZ-1b, HAZ-2a, and HAZ-2b and under CEQA would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-3: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse and mitigable with implementation of Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b and under CEQA would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-4: Under this alternative, depletion of local groundwater supplies as a result of dewatering during construction would not change. Therefore, impacts would not be adverse and under CEQA would be considered less than significant (Class III).

Impacts associated with the use of local groundwater supplies for construction activities, such as dust suppression, grading, and concrete mixing, under this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse but would be mitigated with implementation of Mitigation Measures HYD-3. For this alternative, under CEQA, impacts associated with use of the local groundwater would be significant but would be mitigated to a level that is considered less than significant (Class II).

Under this alternative, depletion of local water supplied during O&M of the proposed ECO Substation Project would not change and would therefore not be adverse and under CEQA would be considered less than significant (Class III).

Impact HYD-5: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse and would be mitigated with implementation of Mitigation Measure HYD-4. For this alternative, under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-6: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse and would be mitigated with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-2a through BIO-2c (see Section D.2 of this EIR/EIS), HYD-1, and HYD-4. For this alternative, under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-7: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HAZ-5a and HAZ-5b. For this alternative, under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-8: Under this alternative, as in the proposed ECO Substation Project, there would be no septic system. Therefore, no impact would occur (No Impact).

D.12.4.2 ECO Partial Underground 138 kV Transmission Route Alternative

This alternative would not affect the impact conclusions resulting from implementation of the proposed Tule Wind and ESJ Gen-Tie projects as discussed in Section D.12.3.3.

Environmental Setting/Affected Environment

Because this alternative would only underground the proposed 138 kV transmission line between milepost 9 and the rebuilt Boulevard Substation, the existing setting would be the same as described in Section D.12.1.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact HYD-1: During installation of the underground portion of this alternative, trenching, in addition to grading, would expose soils and remove vegetative cover that would compromise soil structure and increase the risk of erosion. Therefore, impacts to water quality as a result of increased soil erosion associated with this alternative would be greater than those described for the proposed ECO Substation Project. However, as described for the ECO Substation Project in Section D.12.3.3, implementation of Mitigation Measures HYD-1 and GEO-1 would mitigate these impacts by requiring that ground disturbance during construction of the underground transmission line would be controlled through implementation of best management practices such as the use of hay bales, water bars, covers, sediment fences, sensitive area access restrictions (e.g., flagging), vehicle mats in wet areas, and/or retention/settlement ponds that would be installed before extensive soil clearing and grading began. Under this alternative the

use of these mitigation measures would increase with the increase in ground disturbance. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-2: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HYD-1, GEO-1, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. Under CEQA, impacts would be significant but would be mitigated to a less-than-significant level (Class II).

Impact HYD-3: Under this alternative, trenching to install a portion of the 138 kV line underground would increase the ECO Substation Project's excavation and thereby increase the possibility, though it would remain remote, that the project would encounter groundwater during construction. Trenching would be at a maximum depth of 25 feet. Where the project may encounter groundwater, as described for the ECO Substation Project in Section D.12.3.3, adverse impacts may occur and would be mitigated with implementation of Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. As with excavation under the Proposed ECO Substation Project, under this alternative, where excavation along the underground portion of the transmission line would potentially expose groundwater, these mitigation measures would ensure that potential groundwater along the proposed underground transmission line route would be identified and that specific procedures would be followed to reduce the risk of accidental spill and groundwater contamination. Under CEQA, impacts would be significant but would be mitigated to a less-than-significant level (Class II).

Impact HYD-4: As mentioned previously under ECO-HYD-3, under this alternative trenching to install a portion of the 138 kV line underground would increase the ECO Substation Project's excavation and thereby increase the possibility that the project would encounter groundwater during construction. Trenching would be at a maximum depth of 25 feet. It is considered unlikely that the project would encounter groundwater during construction. Therefore, under this alternative, depletion of local water supplies as a result of dewatering during construction would be unlikely to occur, and impacts would not be adverse, or under CEQA, would be less than significant (Class III).

Under this alternative, the project would disturb a greater amount of land and would, therefore, require a larger volume of water to support construction activities, such as dust suppression and grading. As described in Section D.12.3.3 for the proposed ECO Substation Project, water used during construction is expected to be obtained by drilling for wells in the project vicinity. Water use would be temporary and is not expected to deplete the groundwater storage of the Jacumba Valley Groundwater Basin aquifer (where current recharge is greater than current use).

Mitigation Measure HYD-3 would ensure that use of local groundwater during construction would not impact the production rates of groundwater wells within a 1-mile radius. Therefore, impacts associated with use of the local groundwater would be adverse but could be mitigated so as not to deplete local water supplies. Under CEQA, impacts would be significant but would be mitigated to a level considered less than significant (Class II).

Under this alternative, depletion of local water supplied during O&M of the proposed ECO Substation Project would not change, would not be adverse, and under CEQA would be considered less than significant (Class III).

Impact HYD-5: Under this alternative, the project would not result in an increase in impervious areas. By moving the aboveground transmission lines underground, the project would result in a slightly reduced amount of impervious areas that would otherwise be associated with concrete pads used for the transmission towers. Trenching and recompacting soils along the transmission line where undergrounding would occur may slightly increase these soils' imperviousness. However, with implementation of Mitigation Measure HYD-4, which would include measures such as re-tilling compacted soils and replanting with native vegetation, impacts associated with this alternative would be adverse but also mitigated. Under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-6: Under this alternative, a portion of the 138 kV transmission line would be installed underground and would cross Boundary Creek and unnamed dry washes. Under this alternative, Boundary Creek and unnamed dry washes would not be avoided. Impacts under this alternative associated with installing the transmission line underground across small unnamed creeks are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse; would be mitigated with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, and BIO-2a through BIO-2c (see Section D.2 of this EIR/EIS); and under CEQA would be considered less than significant with mitigation (Class II). Under this alternative, where the transmission line would be installed across a larger water feature, Boundary Creek, impacts would also be adverse and Mitigation Measures HYD-5 and HYD-6 would apply. Implementation of Mitigation Measures HYD-5 and HYD-6 would mitigate for adverse impacts because they would ensure that where the project undergrounds the transmission line at water features, impacts to the water features and groundwater resources would be minimized to the greatest extent possible through avoidance of the water feature and using measures to reduce potential releases of soils and contaminants as part of the effort to avoid the water feature. Under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

MM HYD-5 **Implementation of creek-crossing procedures.** Creek crossing shall use jack-and-bore procedures to avoid direct impacts and shall be conducted in a manner that does not result in sediment-laden discharge or hazardous materials release to the water body. The following measures shall be implemented during horizontal boring (jack-and-bore) operations:

1. Site preparation shall begin no more than 10 days prior to initiating horizontal bores to reduce the time soils are exposed adjacent to creeks and drainages.
2. Trench and/or bore pit spoil shall be stored a minimum of 25 feet from the top of the bank or wetland/riparian boundary. Spoils shall be stored behind a sediment barrier and covered with plastic or otherwise stabilized (i.e., tackifiers, mulch, or detention).
3. Portable pumps and stationary equipment located within 100 feet of a water resource (i.e., wetland/riparian boundary, creeks, and drainages) shall be placed within secondary containment with adequate capacity to contain a spill (i.e., a pump with 10-gallon fuel or oil capacity should be placed in secondary containment capable of holding 15 gallons). A spill kit shall be maintained on site at all times.
4. Immediately following backfill of the bore pits, disturbed soils shall be seeded and stabilized to prevent erosion, and temporary sediment barriers shall be left in place until restoration is deemed successful.
5. The applicant shall obtain the required permits prior to conducting work associated with horizontal directional drilling activities. Required permits may include ACOE CWA Section 404, RWQCB CWA 401, and CDFG Streambed Alteration Agreement Section 1602. The applicant shall implement all pre- and post-construction conditions identified in the permits issued for the horizontal directional drilling.

MM HYD-6 **Horizontal Directional Drill Contingency Plan.** The applicant shall prepare a Horizontal Directional Drill Contingency Plan to address procedures for containing an inadvertent release of drilling fluid (frac-out). The plan shall contain specific measures for monitoring frac-outs, for containing drilling mud, and for notifying agency personnel. The plan shall also discuss spoil stockpile

management, hazardous materials storage and spill cleanup, site-specific erosion and sediment control, and housekeeping procedures, as described in the SWPPP.

The applicant shall obtain the required permits prior to conducting work associated with horizontal directional drilling activities. Required permits may include U.S. Army Corps of Engineers Clean Water Act Section 404, Regional Water Quality Control Board Clean Water Act 401, and CDFG Streambed Alteration Agreement Section 1602. The applicant shall implement all pre- and post-construction conditions identified in the permits issued for the horizontal directional drilling.

Under this alternative, the project would include fewer aboveground features. However, under this alternative the project would add impervious surfaces that would alter the existing drainage patterns. Therefore, as described in Section D.12.3.3, the proposed ECO Substation Project would cause adverse impacts that would be mitigated with implementation of Mitigation Measures HYD-1 and HYD-4, and under CEQA, impacts would be mitigated to less-than-significant levels (Class II).

Under this alternative, the project would install a portion of the 138 kV transmission line underground. While the potential for flooding in the project areas is low, flash flooding can occur in eastern San Diego County, especially in the mountainous areas. Also, dry washes and creeks in the project area could potentially become flooded during severe thunderstorms. During such flow events, the stream channel bed can become scoured to the point where objects buried beneath it could be exposed. The depth of scour is generally greater with larger-magnitude flood events. Exposure of the buried transmission line could result in adverse impacts due to damage to the line or to adjacent property as the exposed line exacerbates the potential for local scour. At places where the buried transmission line crosses below streambeds, the burial depth should be great enough to protect against scour. Mitigation Measure HYD-7 will mitigate adverse impacts by ensuring proper burial of the transmission line and thereby, under CEQA, reduce impacts to less than significant (Class II).

MM HYD-7 **Bury power line below 100-year scour depth.** At locations where the buried power line is to be at or adjacent to a streambed capable of scour, the power line shall be located below the expected depth of scour from a 100-year flood, or otherwise protected from exposure by scour that, for purposes of this mitigation measure, also includes lateral (stream bank) erosion and potential scour associated with flows overtopping or bypassing a culvert or bridge crossing. During final design, a registered civil engineer with expertise in hydrology, hydraulics, and

river mechanics shall make a determination of where the underground line could be at risk of exposure through scour or erosion from a 100-year event.

Impact HYD-7: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse, would be mitigated with implementation of Mitigation Measures HAZ-5a and HAZ-5b, and under CEQA would be significant but mitigated to a less-than-significant level (Class II).

Impact HYD-8: Under this alternative, as in the proposed ECO Substation Project, there would be no septic system. Therefore, no impact would occur (No Impact).

D.12.4.3 ECO Highway 80 138 kV Transmission Route Alternative

This alternative would not affect the impact conclusions resulting from implementation of the proposed Tule Wind and ESJ Gen-Tie projects, as discussed in Section D.12.3.3.

Environmental Setting/Affected Environment

Under this alternative, a portion of the proposed 138 kV line would be installed aboveground along Old Highway 80 expanding and using an existing utility ROW. All other portions of the proposed ECO Substation Project would remain as described in Section B of this EIR/EIS. The portion of Old Highway 80 where the proposed 138 kV line would be installed is located in the same regional hydrologic setting as the proposed ECO Substation Project as described in Sections D.12.1.1 and D.12.1.2. Water features that cross the Old Highway 80 route are Iron Springs and other unnamed dry washes.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact HYD-1: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse, would be mitigated with implementation of Mitigation Measures HYD-1 and GEO-1, and under CEQA would be significant but mitigated to a less-than-significant level (Class II).

Impact HYD-2: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HYD-1, GEO-1, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-3: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-4: Under this alternative, depletion of local groundwater supplies as a result of dewatering during construction would not change and, therefore, would not be adverse and, under CEQA, would be considered less than significant (Class III).

Impacts associated with the use of local groundwater supplies for construction activities, such as dust suppression, grading, and concrete mixing, under this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project. With implementation of Mitigation Measure HYD-3 impacts associated with use of the local groundwater would be less than significant (Class II).

Under this alternative, depletion of local water supplied during O&M of the proposed ECO Substation Project would not change and therefore would not be adverse, and under CEQA would be considered less than significant (Class III).

Impact HYD-5: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse and would be mitigated with implementation of Mitigation Measure HYD-4. For this alternative, under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-6: Under this alternative, a portion of the 138 kV transmission line would follow Old Highway 80 and would, therefore, cross different water features, including Iron Springs and other unnamed dry washes. However, these features would be avoided. Therefore, similar to the Proposed ECO Substation Project, impacts associated with this alternative would be adverse but mitigated with implementation of Mitigation Measures HYD-1 and HYD-4. For this alternative, under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-7: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HAZ-5a and HAZ-5b. For this alternative, under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-8: Under this alternative, as in the proposed ECO Substation Project, there would be no septic system. Therefore, no impact would occur (No Impact).

D.12.4.4 ECO Highway 80 Underground 138 kV Transmission Route Alternative

This alternative would not affect the impact conclusions resulting from implementation of the proposed Tule Wind and ESJ Gen-Tie projects, as discussed in Section D.12.3.3.

Environmental Setting/Affected Environment

Section D.12.4.3 describes the existing setting associated with the Old Highway 80 138 kV Transmission Route Alternative. Because this alternative would only underground the alternate 138 kV transmission line, the existing setting would be the same as described in Section D.12.4.3.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact HYD-1: During installation of the underground portion of this alternative, trenching, in addition to grading, would expose soils and remove vegetative cover that would compromise soil structure and increase the risk of erosion. Therefore, impacts to water quality as a result of increased soil erosion associated with this alternative would be adverse and greater than those described for the proposed ECO Substation Project. However, as described for the Proposed ECO Substation Project in Section D.12.3.3, implementation of Mitigation Measures HYD-1 and GEO-1 would mitigate these impacts by requiring that ground disturbance during construction of the underground transmission line would be controlled through implementation of BMPs, such as the use of hay bales, water bars, covers, sediment fences, sensitive area access restrictions (e.g., flagging), vehicle mats in wet areas, and/or retention/settlement ponds, that would be installed before extensive soil clearing and grading began. Under this alternative, the use of these mitigation measures would increase with the increase in ground disturbance. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-2: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HYD-1, GEO-1, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-3: Under this alternative, trenching to install a portion of the 138 kV line underground would increase the Proposed Project's excavation and thereby increase the

possibility, though it would remain remote, that the project would encounter groundwater during construction. Trenching would be at a maximum depth of 25 feet. Where the project may encounter groundwater, as described for the ECO Substation Project in Section D.12.3.3, adverse impacts may occur and would be mitigated with implementation of Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. As with excavation under the Proposed ECO Substation Project under this alternative, where excavation along the underground portion of the transmission line would potentially expose groundwater, these mitigation measures would ensure that potential groundwater along the proposed underground transmission line route would be identified and that specific procedures would be followed to reduce the risk of accidental spill and groundwater contamination. Under CEQA, impacts would be significant but would be mitigated to a less than significant level (Class II).

Impact HYD-4: As mentioned under Impact ECO-HYD-3, under this alternative, trenching to install a portion of the 138 kV line underground would increase the Proposed ECO Substation Project's excavation and thereby increase the possibility, though it would remain remote, that the project would encounter groundwater during construction. Therefore, under this alternative, depletion of local groundwater supplies as a result of dewatering during construction would be unlikely to occur, impacts would not be adverse, and under CEQA, impacts would be less than significant (Class III).

Under this alternative, the project would disturb a greater amount of land and would, therefore, require a larger volume of water to support construction activities, such as dust suppression and grading. As described in Section D.12.3.3 for the proposed ECO Substation Project, water used during construction is expected to be obtained by drilling for wells in the project vicinity. Water use would be temporary and is not expected to deplete the groundwater storage of the Jacumba Valley Groundwater Basin aquifer (where current recharge is greater than current use). Mitigation Measures HYD-3 would ensure that use of local groundwater during construction would not impact the production rates of groundwater wells within a 1-mile radius. Therefore, with mitigation, impacts associated with use of the local groundwater would not deplete local water supplies, and impacts would be less than significant (Class II).

Under this alternative, depletion of local water supplied during O&M of the proposed ECO Substation Project would not change and would, therefore, not be adverse, and under CEQA would be considered less than significant (Class III).

Impact HYD-5: Under this alternative, the project would not result in an increase in impervious areas. By moving the aboveground transmission lines underground, the project would result in a slightly reduced amount of impervious areas that would otherwise be associated with concrete pads used for the transmission towers. Trenching and recompacting soils along the transmission

line where undergrounding would occur may slightly increase these soils' imperviousness. However, with implementation of Mitigation Measure HYD-4, which would include measures such as re-tilling compacted soils and replanting with native vegetation, impacts associated with this alternative would be adverse but mitigated. Under CEQA, impacts would be less than significant with mitigation implemented (Class II).

Impact HYD-6: Under this alternative, a portion of the 138 kV transmission line would be installed in a ROW along Old Highway 80 and would cross different water features: Iron Springs and other unnamed dry washes. Under this alternative, the 138 kV transmission line would be installed underground along this route. Impacts associated with installing the transmission line underground across small unnamed creeks under this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse; would be mitigated with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, and BIO-2a through BIO-2c (see Section D.2 of this EIR/EIS); and under CEQA would be considered less than significant with mitigation (Class II). Under this alternative, where the transmission line would be installed across larger water features, adverse impacts would occur and be mitigated by implementation of Mitigation Measures HYD-5 and HYD-6, which would ensure that where the project undergrounds the transmission line at water features, impacts to the water features and groundwater resources would be minimized to the greatest extent possible through avoidance of the water feature and with measures to reduce potential releases of soils and contaminants as part of the effort to avoid the water feature. For this alternative, under CEQA, impacts due to features located in a floodplain or watercourse would be significant but would be mitigated to a level that is considered less than significant.

Under this alternative, the project would include fewer aboveground features. However, under this alternative, the project would add impervious surfaces that would alter the existing drainage patters. Therefore, as described in Section D.12.3.3 for the proposed ECO Substation Project, impacts would be adverse; would be mitigated with implementation of Mitigation Measures HYD-1 and HYD-4; and under CEQA, impacts would be mitigated to a less-than-significant level (Class II).

As stated previously, under this alternative, the project would install a portion of the 138 kV transmission line underground. While the potential for flooding in the project areas is low, flash flooding can occur in eastern San Diego County, especially in the mountainous areas. Also, dry washes and creeks in the project area could potentially become flooded during severe thunderstorms. During such flow events, the stream channel bed can become scoured to the point where objects buried beneath it could be exposed. The depth of scour is generally greater with larger-magnitude flood events. Exposure of the buried transmission line could result in adverse impacts due to damage to the line or to adjacent property as the exposed line exacerbates the

potential for local scour. At places where the buried transmission line crosses below streambeds, the burial depth should be great enough to protect against scour. Mitigation Measure HYD-7 would mitigate adverse impacts by ensuring proper burial of the transmission line and thereby, under CEQA, reduce impacts to less than significant (Class II).

Impact HYD-7: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ECO Substation Project; they would be adverse and would be mitigated with Mitigation Measures HAZ-5a and HAZ-5b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-8: Under this alternative, as in the proposed ECO Substation Project, there would be no septic system. Therefore, no impact would occur (No Impact).

D.12.5 Tule Wind Project Alternatives

Table D.12-4 summarizes the impacts and classification of the impacts under CEQA that have been identified for the Tule Wind Project alternatives.

Table D.12-4
Water Resources Impacts Identified for
Tule Wind Project Alternatives

Impact No.	Description	Classification
Tule Wind Alternative 1, Gen-Tie Route 2 with Collector Substation/O&M Facility on Rough Acres Ranch		
Tule-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
Tule -HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
Tule-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
Tule-HYD-4	The project could deplete local water supplies.	Class II
Tule-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
Tule-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or they could expose people or structures to significant risk.	Class II
Tule-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
Tule-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	Class III
Tule Wind Alternative 2, Gen-Tie Route 2 Underground with Collector Substation/O&M Facility on Rough Acres Ranch		
Tule-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
Tule-HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
Tule-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
Tule-HYD-4	The project could deplete local water supplies.	Class II

Table D.12-4 (Continued)

Impact No.	Description	Classification
Tule-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
Tule-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or they could expose people or structures to significant risk.	Class II
Tule-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
Tule-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	Class III
Tule Wind Alternative 3, Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch		
Tule-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
Tule-HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
Tule-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
Tule-HYD-4	The project could deplete local water supplies.	Class II
Tule-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
Tule-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or they could expose people or structures to significant risk.	Class II
Tule-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
Tule-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	Class III
Tule Wind Alternative 4, Gen-Tie Route 3 Underground with Collector Substation/O&M Facility on Rough Acres Ranch		
Tule-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
Tule-HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
Tule-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
Tule-HYD-4	The project could deplete local water supplies.	Class II
Tule-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
Tule-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or they could expose people or structures to significant risk.	Class II
Tule-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
Tule-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	Class III
Tule Wind Alternative 5, Reduction in Turbines		
Tule-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
Tule-HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
Tule-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
Tule-HYD-4	The project could deplete local water supplies.	Class II
Tule-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
Tule-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or they could expose people or structures to significant risk.	Class II
Tule-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
Tule-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	Class III

D.12.5.1 Tule Wind Alternative 1, Gen-Tie Route 2 with Collector Substation/O&M Facility on Rough Acres Ranch

Implementation of this alternative would not affect the impact conclusions identified in Section D.12.3.3 for the proposed ECO Substation and ESJ Gen-Tie projects.

Environmental Setting/Affected Environment

Under this alternative, the Tule Wind Project's collector substation and O&M facility would be relocated from Bureau of Land Management (BLM)-administered land in the McCain National Cooperative Land and Wildlife Management Area to County of San Diego jurisdictional land on Rough Acres Ranch. Proposed turbines would be sited in the same location as identified in the proposed Tule Wind Project. Relocation of the collector substation and O&M facility to Rough Acres Ranch would result in a shorter proposed 138 kV gen-tie route and a longer overhead cable collector system as described in Section C.4.2.1, Tule Alternative Gen-Tie Route 2 with Collector Substation/O&M Facility on Rough Acres Ranch.

The relocated collector substation and O&M facility would be located in the same hydrologic setting as the proposed Tule Wind Project, as described in Sections D.12.1.1 and D.12.1.3. Under this alternative, the project would also cross Tule Creek and ephemeral streams and would require drilling in the local crystalline bedrock to access local groundwater.

During construction, the project proposes to use water from wells located on Rough Acres Ranch. Under this alternative, the project would site the collector substation and O&M Building on Rough Acres Ranch, approximately a quarter mile southeast of one of the construction wells. The other two wells on Rough Acres Ranch would be approximately half a mile and three-quarters of a mile away from the proposed alternate site for the collector substation and O&M building, respectively. With these distances between the proposed facilities and the well locations, the Proposed Tule Wind Project is not expected to interfere with use of these wells under this alternative.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact HYD-1: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project and would be mitigated to less than significant with Mitigation Measures HYD-1 and GEO-1. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-2: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project and would be mitigated to less than significant with Mitigation Measures HYD-1, GEO-1, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-3: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project and would be mitigated to less than significant with Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-4: Under this alternative, depletion of local groundwater supplies as a result of dewatering during construction would not change and would, therefore, be considered less than significant (Class III).

Impacts associated with the use of local groundwater supplies for construction activities, such as dust suppression, grading, and concrete mixing, under this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project and would therefore remain adverse. Implementation of Mitigation Measure HYD-3 would mitigate impacts associated with use of the local groundwater during construction and would ensure that there was sufficient groundwater to supply the O&M building after construction. For this alternative, under CEQA, impacts would remain significant and would be mitigated to a level that is considered less than significant (Class II).

Under this alternative, impacts associated with water use during the decommissioning phase of the project would be similar to those discussed previously for the proposed Tule Wind Project's decommissioning efforts, and would be less than the construction phase of the project, as no water will be required for concrete mixing. The decommissioning plan that would be required and approved by BLM and San Diego County would require similar measures as described for Mitigation Measure HYD-3. Therefore, impacts would be considered adverse but mitigable, and under CEQA would be considered significant but can be mitigated to a level that is considered less than significant (Class II).

Under this alternative, depletion of local water supplied during O&M of the proposed Tule Wind Project would not change and would not be adverse. For this alternative, under CEQA, operational impacts associated with the O&M facility on the local groundwater supplies would be considered less than significant (Class III).

Impact HYD-5: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project and would be mitigated to less than significant with Mitigation Measure HYD-4, which supersedes APMs TULE-HYD-1, TULE-HYD-2, TULE-HYD-3, and TULE-HYD-4. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-6: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project and would be mitigated to less than significant with Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-2a through BIO-2c, HYD-1 and HYD-4. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-7: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 and would, therefore, be adverse but mitigated with implementation of Mitigation Measures HAZ-5a and HAZ-5b. Although under this alternative project components would be located closer to the construction water wells, implementation of Mitigation Measures HAZ-5a and HAZ-5b would mitigate for impacts to local groundwater quality by ensuring that proper spill prevention and response plans are in place prior to the start of construction and operation of the new facilities. For this alternative, under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-8: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project, would not be adverse, and under CEQA would be considered less than significant (Class III).

D.12.5.2 Tule Wind Alternative 2, Gen-Tie Route 2 Underground with Collector Substation/O&M Facility on Rough Acres Ranch

Implementation of this alternative would not affect the impact conclusions identified in Section D.12.3.3 for the proposed ECO Substation and ESJ Gen-Tie projects.

Environmental Setting/Affected Environment

Section D.12.5.1 describes the existing setting associated with relocation of the collector substation and O&M facility to Rough Acres Ranch and the subsequent shortened 138 kV gen-tie route and extended collector cable system. This alternative undergrounds the 138 kV transmission line.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact HYD-1: During installation of the underground portion of this alternative, trenching, in addition to grading, would expose soils and remove vegetative cover that would compromise soil structure and increase the risk of erosion. Therefore, impacts to water quality as a result of increased soil erosion associated with this alternative would be adverse and greater than impacts described for the proposed Tule Wind Project. However, as described for the Proposed Tule Wind Project in Section D.12.3.3, implementation of Mitigation Measures HYD-1 and GEO-1 would mitigate these impacts by requiring that ground disturbance during construction of the underground transmission line would be controlled through implementation of BMPs, such as the use of hay bales, water bars, covers, sediment fences, sensitive area access restrictions (e.g., flagging), vehicle mats in wet areas, and/or retention/settlement ponds, that would be installed before extensive soil clearing and grading began. Under this alternative the use of these mitigation measures would increase with the increase in ground disturbance. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-2: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HYD-1, GEO-1, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-3: Under this alternative, trenching to install a portion of the 138 kV line underground would increase the Proposed Tule Wind Project's excavation and thereby increase the possibility that the project would encounter groundwater during construction. Trenching would be at a maximum depth of 25 feet. Where the project may encounter groundwater, as described for the Tule Wind Project in Section D.12.3.3, adverse impacts may occur and would be mitigated with implementation of Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. As with excavation under the Proposed Tule Wind Project, under this alternative, where excavation along the underground portion of the transmission line would potentially expose groundwater, these mitigation measures would ensure that potential groundwater along the proposed underground transmission line route would be identified and that specific procedures would be followed to reduce the risk of accidental spill and groundwater contamination. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-4: As mentioned previously under Tule-HYD-3, under this alternative, trenching to install a portion of the 138 kV line underground would increase the Proposed Tule Wind Project's excavation and thereby increase the possibility, though it would remain remote, that the project would encounter groundwater during construction. Trenching would be at a maximum depth of 25 feet. It is unlikely that the project would encounter groundwater during construction. Therefore, under this alternative, depletion of local water supplies as a result of dewatering during construction would be unlikely to occur, and impacts would be less than significant (Class III).

Under this alternative, the project would disturb a greater amount of land and would, therefore, require a larger volume of water to support construction activities, such as dust suppression and grading. As described in Section D.12.3.3 for the proposed Tule Wind Project, water used during construction is expected to be obtained by drilling for wells in the project vicinity. Water use would be temporary and is not expected to deplete the groundwater storage of the Jacumba Valley Groundwater Basin aquifer (where recharge is estimated to be greater than usage). Mitigation Measure HYD-3 would ensure that use of local groundwater during construction would not impact the production rates of groundwater wells within a 1-mile radius. Therefore, with mitigation, impacts associated with use of the local groundwater would not deplete local water supplies and would be less than significant. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Under this alternative, impacts associated with water use during the decommissioning phase of the project would be similar to those discussed previously for the proposed Tule Wind Project's decommissioning efforts, and would be less than the construction phase of the project, as no water will be required for concrete mixing. The decommissioning plan that would be required and approved by BLM and San Diego County would require similar measures as described for Mitigation Measure HYD-3. Therefore, impacts would be considered adverse but mitigable, and under CEQA would be considered significant but can be mitigated to a level that is considered less than significant (Class II).

Under this alternative, depletion of local water supplies during O&M of the proposed Tule Wind Project would not change, would not be adverse, and under CEQA would be considered less than significant (Class III).

Impact HYD-5: Under this alternative, the project would not result in an increase in impervious areas. By moving the aboveground transmission lines underground, the project would result in a slightly reduced amount of impervious areas that would otherwise be associated with concrete pads used for the transmission towers. Trenching and recompacting soils along the transmission line, where undergrounding would occur, may slightly increase these soils' imperviousness.

However, with implementation of Mitigation Measure HYD-4, which would include measures such as re-tilling compacted soils and replanting with native vegetation, impacts associated with this alternative would be adverse but mitigated, and under CEQA would be less than significant with mitigation implemented (Class II).

Impact HYD-6: Under this alternative, a portion of the transmission line would be installed underground and would cross Tule Creek and ephemeral streams. Under this alternative, Tule Creek and the unnamed ephemeral streams would not be avoided. Impacts associated with installing the transmission line underground across small unnamed creeks under this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; impacts would be adverse, would be mitigated with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, and BIO-2a through BIO-2c (see Section D.2 of this EIR/EIS); and under CEQA would be significant but mitigated to a level that is considered less than significant (Class II). Under this alternative, where the transmission line would be installed across larger water features, adverse impacts would occur but be mitigated with implementation of Mitigation Measures HYD-5 and HYD-6, which would ensure that where the project undergrounds the transmission line at water features, impacts to the water features and groundwater resources would be minimized to the greatest extent possible through avoidance of the water feature and with measures to reduce potential releases of soils and contaminants as part of the effort to avoid the water feature. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Under this alternative, the project would include fewer aboveground features. However, under this alternative, the project would add impervious surfaces that would alter the existing drainage patterns. Therefore, as described in Section D.12.3.3, the proposed Tule Wind Project would cause adverse impacts that would be mitigated with implementation of Mitigation Measures HYD-1 and HYD-6. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Under this alternative, the project would install a portion of the transmission line underground. While the potential for flooding in the project areas is low, flash flooding can occur in eastern San Diego County, especially in the mountainous areas. Also, dry washes and creeks in the project area could potentially become flooded during severe thunderstorms. During such flow events, the stream channel bed can become scoured to the point where objects buried beneath it could be exposed. The depth of scour is generally greater with larger-magnitude flood events. Exposure of the buried transmission line could result in adverse impacts due to damage to the line or to adjacent property as the exposed line exacerbates the potential for local scour. At places where the buried transmission line crosses below streambeds, the burial depth should be great enough to protect against scour. Mitigation Measure HYD-7 will mitigate adverse impacts

by ensuring proper burial of the transmission line and thereby, under CEQA, reduce impacts to less than significant (Class II).

Impact HYD-7: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HAZ-5a and HAZ-5b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-8: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; they would not be adverse and under CEQA would be less than significant (Class III).

D.12.5.3 Tule Wind Alternative 3, Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch

Implementation of this alternative would not affect the impact conclusions identified in Section D.12.3.3 for the proposed ECO Substation and ESJ Gen-Tie projects.

Environmental Setting/Affected Environment

Under this alternative, the Tule Wind Project's collector substation and O&M facility would be relocated from BLM-administered land in the McCain National Cooperative Land and Wildlife Management Area to County of San Diego jurisdictional land on Rough Acres Ranch. Proposed turbines would be sited in the same location as identified in the proposed Tule Wind Project. Relocation of the collector substation and O&M facility to Rough Acres Ranch would result in a shorter proposed 138 kV gen-tie route (approximately 5.4 miles) and a longer overhead cable collector system, as described in Section C.4.2.4, Tule Alternative Gen-Tie Route 3 Underground with Collector Substation/O&M Facility on Rough Acres Ranch.

The relocated collector substation and O&M facility would be located in the same hydrologic setting as the proposed Tule Wind Project, as described in Sections D.12.1.1 and D.12.1.3. Under this alternative, the project would also cross Tule Creek, Walker Creek, and other ephemeral streams and would require drilling in the local crystalline bedrock to access local groundwater.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact HYD-1: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HYD-1 and GEO-1. For this

alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-2: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HYD-1, GEO-1, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-3: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-4: Under this alternative, depletion of local groundwater supplies as a result of dewatering during construction would not change, would not be adverse, and under CEQA would be considered less than significant (Class III).

Impacts associated with the use of local groundwater supplies for construction activities, such as dust suppression, grading, and concrete mixing, under this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; they would be adverse and would be mitigated with implementation of Mitigation Measure HYD-3. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Under this alternative, impacts associated with water use during the decommissioning phase of the project would be similar to those discussed previously for the proposed Tule Wind Project's decommissioning efforts, and would be less than the construction phase of the project, as no water will be required for concrete mixing. The decommissioning plan that would be required and approved by BLM and San Diego County would require similar measures as described for Mitigation Measure HYD-3. Therefore, impacts would be considered adverse but mitigable, and under CEQA would be considered significant but can be mitigated to a level that is considered less than significant (Class II).

Under this alternative, depletion of local water supplied during O&M of the proposed Tule Wind Project would not change, would not be adverse, and under CEQA would be considered less than significant (Class III).

Impact HYD-5: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; they would be adverse and would be mitigated with implementation of Mitigation Measure HYD-4. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-6: Under this alternative, project features would cross Tule Creek, Walker Creek, and other unnamed dry washes. Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HYD-1, HYD-6, BIO-1a through BIO-1d, BIO-1f, and BIO-2a through BIO-2c (see Section D.2 of this EIR/EIS). For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-7: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HAZ-5a and HAZ-5b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-8: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; they would not be adverse and under CEQA would be less than significant (Class III).

D.12.5.4 Tule Wind Alternative 4, Gen-Tie Route 3 Underground with Collector Substation/O&M Facility on Rough Acres Ranch

Implementation of this alternative would not affect the impact conclusions identified in Section D.12.3.3 for the proposed ECO Substation and ESJ Gen-Tie projects.

Environmental Setting/Affected Environment

Because this alternative would only underground the 138 kV gen-tie line, the existing setting would be the same as described in Section D.12.5.3.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact HYD-1: During installation of the underground portion of this alternative, trenching, in addition to grading, would expose soils and remove vegetative cover that would compromise soil structure and increase the risk of erosion. Therefore, impacts to water quality as a result of

increased soil erosion associated with this alternative would be adverse and greater than those described for the proposed Tule Wind Project. However, as described for the Proposed Tule Wind Project in Section D.12.3.3, implementation of Mitigation Measures HYD-1 and GEO-1 would mitigate these impacts by requiring that ground disturbance during construction of the underground transmission line would be controlled through implementation of BMPs, such as the use of hay bales, water bars, covers, sediment fences, sensitive area access restrictions (e.g., flagging), vehicle mats in wet areas, and/or retention/settlement ponds, that would be installed before extensive soil clearing and grading began. Under this alternative, the use of these mitigation measures would increase with the increase in ground disturbance. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-2: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HYD-1, GEO-1, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-3: Under this alternative, trenching to install a portion of the 138 kV line underground would increase the Proposed Tule Wind Project's excavation and thereby increase the possibility that the project would encounter groundwater during construction. Trenching would be at a maximum depth of 25 feet. It is unlikely that the project would encounter groundwater during construction. Where the project may encounter groundwater, as described for the Tule Wind Project in Section D.12.3.3, adverse impacts may occur and be mitigated with implementation of Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. As with excavation under the Proposed Tule Wind Project, under this alternative, where excavation along the underground portion of the transmission line would potentially expose groundwater, these mitigation measures would ensure that potential groundwater along the proposed underground transmission line route would be identified and that specific procedures would be followed to reduce the risk of accidental spill and groundwater contamination. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-4: As mentioned previously under Tule-HYD-3, under this alternative, trenching to install a portion of the 138 kV line underground would increase the Proposed Tule Wind Project's excavation and thereby increase the possibility, though it would remain remote, that the project would encounter groundwater during construction. Trenching would be at a maximum depth of 25 feet. It is unlikely that the project would encounter groundwater during construction. Therefore, under this alternative, depletion of local water supplies as a result of dewatering

during construction would be unlikely to occur, impacts would not be adverse, and under CEQA impacts would be less than significant (Class III).

Under this alternative, the project would disturb a greater amount of land and would, therefore, require a larger volume of water to support construction activities, such as dust suppression and grading. As described in Section D.12.3.3 for the proposed Tule Wind Project, water used during construction is expected to be obtained by drilling for wells in the project vicinity. Water use would be temporary and is not expected to deplete the groundwater storage of the Jacumba Valley Groundwater Basin aquifer (where current recharge is greater than current use). Mitigation Measure HYD-3 would ensure that use of local groundwater during construction would not impact the production rates of groundwater wells within a 1-mile radius. Therefore, with mitigation, impacts associated with use of the local groundwater would not deplete local water supplies, and impacts would be less than significant (Class II).

Under this alternative, impacts associated with water use during the decommissioning phase of the project would be similar to those discussed previously for the proposed Tule Wind Project's decommissioning efforts, and would be less than the construction phase of the project, as no water will be required for concrete mixing. The decommissioning plan that would be required and approved by BLM and San Diego County would require similar measures as described for Mitigation Measure HYD-3. Therefore, impacts would be considered adverse but mitigable, and under CEQA would be considered significant but can be mitigated to a level that is considered less than significant (Class II).

Under this alternative, depletion of local water supplied during O&M of the proposed Tule Wind Project would not change, would not be adverse, and under CEQA would be considered less than significant (Class III).

Impact HYD-5: Under this alternative, the project would not result in an increase in impervious areas. By moving the aboveground transmission lines underground, the project would result in a slightly reduced amount of impervious areas that would otherwise be associated with concrete pads used for the transmission towers. Trenching and recompacting soils along the transmission line, where undergrounding would occur, may slightly increase these soils' imperviousness. However, with implementation of Mitigation Measure HYD-4, which would include measures such as re-tilling compacted soils and replanting with native vegetation, impacts associated with this alternative would be adverse but mitigated, and under CEQA would be less than significant with mitigation implemented (Class II).

Impact HYD-6: Under this alternative, a portion of the transmission line would be installed underground and would cross Tule Creek, Walker Creek, and ephemeral streams**.** Under this alternative, Tule Creek, Walker Creek, and the unnamed ephemeral streams would not be

avoided. Impacts associated with installing the transmission line underground across small unnamed creeks under this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project they would be adverse, would be mitigated with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, and BIO-2a through BIO-2c (see Section D.2 of this EIR/EIS), and under CEQA would be considered less than significant with mitigation implemented (Class II). Under this alternative, where the transmission line would be installed across larger water features, adverse impacts would occur but be mitigated with implementation of Mitigation Measures HYD-5 and HYD-6, which would ensure that where the project undergrounds the transmission line at water features, impacts to the water features and groundwater resources would be minimized to the greatest extent possible through avoidance of the water feature and with measures to reduce potential releases of soils and contaminants as part of the effort to avoid the water feature. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Under this alternative, the project would include fewer aboveground features. However, under this alternative, the project would add impervious surfaces that would alter the existing drainage patterns. Therefore, as described in Section D.12.3.3, the proposed Tule Wind Project would cause adverse impacts that would be mitigated with implementation of Mitigation Measures HYD-1 and HYD-6. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Under this alternative, the project would install a portion of the transmission line underground. While the potential for flooding in the project areas is low, flash flooding can occur in eastern San Diego County, especially in the mountainous areas. Also, dry washes and creeks in the project area could potentially become flooded during severe thunderstorms. During such flow events, the stream channel bed can become scoured to the point where objects buried beneath it could be exposed. The depth of scour is generally greater with larger-magnitude flood events. Exposure of the buried transmission line could result in adverse impacts due to damage to the line or to adjacent property as the exposed line exacerbates the potential for local scour. At places where the buried transmission line crosses below streambeds, the burial depth should be great enough to protect against scour. Mitigation Measure HYD-7 would mitigate adverse impacts by ensuring proper burial of the transmission line and thereby, under CEQA, reduce impacts to less than significant (Class II).

Impact HYD-7: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HAZ-5a and HAZ-5b. For this

alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-8: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed Tule Wind Project; they would not be adverse and under CEQA would be considered less than significant (Class III).

D.12.5.5 Tule Wind Alternative 5, Reduction in Turbines

This alternative would not affect the impact conclusions resulting from the implementation of the proposed ECO Substation and ESJ Gen-Tie projects, as discussed in Section D.12.3.3.

Environmental Setting/Affected Environment

Under this alternative, 62 of the proposed 134 turbines associated with the Tule Wind Project would be removed. The 62 turbines that would not be built under this alternative are on private land along the eastern project boundary, adjacent to the BLM Area of Critical Environmental Concern; and turbines adjacent to wilderness areas on the western side of the project. The turbine locations that would be removed in the western side under this alternative are the only portions of the project located west of the Tecate Divide in the San Diego Basin, Tijuana watershed (hydrologic unit), Cameron hydrologic area, where surface waters eventually drain to the Pacific Ocean. The most northern of these turbine locations are also located near Cannebrake Wash. Other than these two exceptions, the environmental setting for this alternative would be similar to that identified for the proposed Tule Wind Project in Section D.12.1.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact HYD-1: Impacts associated with this alternative would be reduced but similar to those described in Section D.12.3.3 for the proposed Tule Wind Project. Impacts would, therefore, remain adverse but would be mitigated with implementation of Mitigation Measures HYD-1 and GEO-1 (Class II). For this alternative, under CEQA, impacts would remain significant but would be mitigated to a less-than-significant level (Class II).

Impact HYD-2: Impacts associated with this alternative would be reduced due to the reduced number of turbines, but would remain the same as described in Section D.12.3.3 for the other portions of the proposed Tule Wind Project. Impacts would therefore remain adverse and would be mitigated with implementation of Mitigation Measures HYD-1, GEO-1, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would remain significant but would be mitigated to a less-than-significant level (Class II).

Impact HYD-3: Impacts associated with this alternative would be reduced due to the reduced number of turbines, but would remain the same as described in Section D.12.3.3 for the other portions of the proposed Tule Wind Project. Impacts would, therefore, remain adverse and would be mitigated with implementation of Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would remain significant but would be mitigated to a less-than-significant level (Class II).

Impact HYD-4: Under this alternative, depletion of local groundwater supplies as a result of dewatering during construction would be reduced by the reduced number of turbines and would not be adverse. For this alternative, under CEQA, impacts to groundwater supplies due to dewatering would be considered less than significant (Class III).

Impacts associated with the use of local groundwater supplies for construction activities, such as dust suppression, grading, and concrete mixing, under this alternative would be reduced by a reduction in water that would have been used during construction of the 62 fewer turbines. The total construction water needs of 17,512,000 gallons would be reduced by approximately 3-5%. Also, under this alternative, water would not be necessary to construct the access roads or collector transmission lines to these turbines. Although total water use during construction would be reduced under this alternative, total water use would still remain close to 17 million gallons. Therefore, impacts associated with this water use would remain adverse. With implementation of Mitigation Measure HYD-3 impacts associated with use of the local groundwater would be less than significant. For this alternative, under CEQA, impacts would remain significant but would be mitigated to a less-than-significant level (Class II).

Under this alternative, impacts associated with water use during the decommissioning phase of the project would be similar to those discussed previously for the proposed Tule Wind Project's decommissioning efforts, and would be less than the construction phase of the project, as no water will be required for concrete mixing. The decommissioning plan that would be required and approved by BLM and San Diego County would require similar measures as described for Mitigation Measure HYD-3. Therefore, impacts would be considered adverse but mitigable, and under CEQA would be considered significant but can be mitigated to a level that is considered less than significant (Class II).

Under this alternative, depletion of local water supplied during O&M of the proposed Tule Wind Project would not change and would, therefore, be considered less than significant (Class III).

Impact HYD-5: Impacts associated with this alternative would be reduced due to the reduced number of turbines, but would remain as described in Section D.12.3.3 for the other portions of the proposed Tule Wind Project. Impacts would therefore be adverse and would be mitigated with

implementation of Mitigation Measure HYD-4. For this alternative, under CEQA, impacts would remain significant but would be mitigated to a less-than-significant level (Class II).

Impact HYD-6: Impacts associated with this alternative would be reduced due to the reduced number of turbines, as there are ephemeral drainages in the project area near these turbines that would not be impacted. However, impacts would remain as described in Section D.12.3.3 for the other portions of the proposed Tule Wind Project. Impacts would be adverse and would be mitigated to less than significant with Mitigation Measures HYD-1, HYD-6, BIO-1a through BIO-1d, BIO-1f, and BIO-2a through BIO-2c (see Section D.2 of this EIR/EIS). For this alternative, under CEQA, impacts would remain significant but would be mitigated to a less-than-significant level (Class II).

Impact HYD-7: Impacts associated with this alternative would be reduced due to the reduced number of turbines, but would remain as described in Section D.12.3.3 for the other portions of the proposed Tule Wind Project. Impacts would be adverse and would be mitigated with implementation of Mitigation Measures HAZ-5a and HAZ-5b. For this alternative, under CEQA, impacts would remain significant but would be mitigated to a less-than-significant level (Class II).

Impact HYD-8: Impacts associated with this alternative would be the same as described in Section D.12.3.3 for the proposed Tule Wind Project. Impacts would not be adverse and under CEQA would be less than significant (Class III).

D.12.6 ESJ Gen-Tie Project Alternatives

Table D.12-5 summarizes the impacts and classification of the impacts under CEQA that have been identified for the ESJ Gen-Tie Project alternatives.

Table D.12-5
Water Resources Impacts Identified for ESJ Gen-Tie Project Alternatives

Impact No.	Description	Classification
ESJ 230 kV Gen-Tie Underground Alternative		
ESJ-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
ESJ-HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
ESJ-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
ESJ-HYD-4	The project could deplete local water supplies.	Class III
ESJ-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
ESJ-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or they could expose people or structures to significant risk.	Class II

Table D.12-5 (Continued)

Impact No.	Description	Classification
ESJ-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
ESJ-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	No Impact
ESJ Gen-Tie Overhead Alternative Alignment		
ESJ-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
ESJ-HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
ESJ-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
ESJ-HYD-4	The project could deplete local water supplies.	Class III
ESJ-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
ESJ-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or they could expose people or structures to significant risk.	Class II
ESJ-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
ESJ-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	No Impact
ESJ Gen-Tie Underground Alternative Alignment		
ESJ-HYD-1	Construction activity could degrade water quality due to erosion and sedimentation.	Class II
ESJ-HYD-2	Construction activity could degrade water quality through spills of potentially harmful materials.	Class II
ESJ-HYD-3	Excavation could degrade groundwater quality in areas of shallow groundwater.	Class II
ESJ-HYD-4	The project could deplete local water supplies.	Class III
ESJ-HYD-5	Creation of new impervious areas could cause increased runoff, resulting in flooding or increased erosion downstream.	Class II
ESJ-HYD-6	Project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion, or they could expose people or structures to significant risk.	Class II
ESJ-HYD-7	Accidental releases of contaminants from project facilities could degrade water quality.	Class II
ESJ-HYD-8	Where septic tanks are proposed, such facilities could impact local water quality.	No Impact

D.12.6.1 ESJ 230 kV Gen-Tie Underground Alternative

This alternative would not affect the impact conclusions resulting from implementation of the proposed ECO Substation and Tule Wind projects, as discussed in Section D.12.3.3.

Environmental Setting/Affected Environment

Section D.12.1.2 describes the existing setting associated with the ESJ Gen-Tie Project, which considers both a 500 kV and a 230 kV gen-tie option. Because this alternative would select and construct the 230 kV gen-tie underground, the existing setting would be the same as described in Section D.12.1.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact HYD-1: During installation of the underground portion of this alternative, trenching, in addition to grading, would expose soils and remove vegetative cover that would compromise soil structure and increase the risk of erosion. Therefore, impacts to water quality as a result of increased soil erosion associated with this alternative would be adverse and greater than those described for the proposed ESJ Gen-Tie Project. However, as described for the Proposed ESJ Gen-Tie Project in Section D.12.3.3, implementation of Mitigation Measures HYD-1 and GEO-1 would mitigate these impacts by requiring that ground disturbance during construction of the underground transmission line would be controlled through implementation of BMPs, such as the use of hay bales, water bars, covers, sediment fences, sensitive area access restrictions (e.g., flagging), vehicle mats in wet areas, and/or retention/settlement ponds, that would be installed before extensive soil clearing and grading began. Under this alternative, the use of these mitigation measures would increase with the increase in ground disturbance. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-2: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ESJ Gen-Tie Project; they would be adverse and would be mitigated with implementation of Mitigation Measures HYD-1, GEO-1, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-3: Under this alternative, trenching to install the transmission line underground would increase the Proposed ESJ Gen-Tie Project's excavation and thereby increase the possibility, although it would remain remote, that the project would encounter groundwater during construction. Where the project may encounter groundwater, as described for the ESJ Gen-Tie Project in Section D.12.3.3, implementation of Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b would reduce impacts to a less-than-significant level (Class II).

Impact HYD-4: As mentioned previously under ESJ-HYD-3, under this alternative trenching to install the transmission line underground would increase the Proposed ESJ Gen-Tie Project's excavation and thereby increase the possibility, although it would remain remote, that the project would encounter groundwater during construction. Trenching would be at a maximum depth of 25 feet. It is unlikely that the project would encounter groundwater during construction. Therefore, under this alternative, depletion of local water supplies as a result of dewatering

during construction would be unlikely to occur; adverse impacts would not occur; and under CEQA, impacts would be less than significant (Class III).

Under this alternative, the project would disturb a greater amount of land and would, therefore, require a larger volume of water to support construction activities, such as dust suppression and grading. As described in Section D.12.3.3 for the proposed ESJ Gen-Tie Project, water used during construction is expected to be obtained from an off-site groundwater well owned by the Jacumba Community Services District located on the western edge of the Community of Jacumba, approximately 4.5 miles west of the project site. Water use would be temporary. The increased water supply needed to install the transmission line underground is not expected to significantly increase the required production rate from the well during construction. Therefore, impacts associated with use of the local groundwater would not deplete local water supplies, and impacts would be less than significant (Class III).

Under this alternative, depletion of local water supplied during O&M of the proposed ESJ Gen-Tie Project would not change, would not be adverse, and under CEQA would be considered less than significant (Class III).

Impact HYD-5: Under this alternative, the project would not result in an increase in impervious areas. By moving the aboveground transmission lines underground, the project would result in a slightly reduced amount of impervious areas that would otherwise be associated with concrete pads used for the transmission towers. Trenching and recompacting soils along the transmission line, where undergrounding would occur, may slightly increase these soils' imperviousness. However, with implementation of Mitigation Measure HYD-4, which would include measures such as re-tilling compacted soils and replanting with native vegetation, impacts associated with this alternative would be adverse but mitigated and, under CEQA, would be less than significant with mitigation implemented (Class II).

Impact HYD-6: Under this alternative, the project would not impact any water features and would not be located in a flood plain. Under this alternative, the project would include fewer aboveground features. The project under this alternative would add fewer impervious surfaces, but it would temporarily disrupt a larger surface area during trenching along the ROW to install the transmission line. Trenching would increase the possibility of erosion during a storm event that could cause adverse impacts. Therefore, under this alternative, impacts associated with flooding resulting from the proposed ESJ Gen-Tie Project would be mitigated with implementation of Mitigation Measures HYD-1 and HYD-4. For this alternative, under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-7: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ESJ Gen-Tie Project. Impacts would be adverse and would be mitigated with implementation of Mitigation Measures HAZ-5a and HAZ-5b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-8: Under this alternative, as in the proposed ESJ Gen-Tie Project, there would be no septic system. Therefore, no impact would occur (No Impact).

D.12.6.2 ESJ Gen-Tie Overhead Alternative Alignment

This alternative would not affect the impact conclusions resulting from implementation of the proposed Tule Wind Project as discussed in Section D.12.3.3. This alternative assumes the implementation of the ECO Substation Alternative Site and that the water resource impacts identified in Section D.12.4.1 (ECO Substation Alternative Site) would occur.

Environmental Setting/Affected Environment

Section D.12.1.2 describes the existing setting associated with the ESJ Gen-Tie Project, which considers both a 500 kV and a 230 kV gen-tie option. Because this alternative would shift the 230 kV transmission line approximately 700 feet to the east, the existing hydrologic setting would be the same as described in Section D.12.1.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact HYD-1: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ESJ Gen-Tie Project and would be mitigated to less than significant with Mitigation Measures HYD-1 and GEO-1 (Class II).

Impact HYD-2: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ESJ Gen-Tie Project. Impacts would be adverse and would be mitigated with implementation of Mitigation Measures HYD-1, GEO-1, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-3: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ESJ Gen-Tie Project. Impacts would be adverse and would be mitigated with implementation of Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-4: Under this alternative, depletion of local groundwater supplies as a result of dewatering during construction would not change, would not be adverse, and under CEQA would be considered less than significant (Class III).

Impacts associated with the use of local groundwater supplies for construction activities, such as dust suppression, grading, and concrete mixing, under this alternative, are expected to be the same as described in Section D.12.3.3 for the proposed ESJ Gen-Tie Project. With implementation of Mitigation Measure HYD-3 impacts associated with use of the local groundwater would be less than significant (Class II).

Under this alternative, depletion of local water supplied during O&M of the proposed ESJ Gen-Tie Project would not change, would not be adverse, and under CEQA would be considered less than significant (Class III).

Impact HYD-5: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ESJ Gen-Tie Project. Impacts would be adverse and would be mitigated with implementation of Mitigation Measure HYD-4. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-6: Under this alternative, the project would not impact any water features and would not be located in a flood plain. Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ESJ Gen-Tie Project and would not be adverse. For this alternative, under CEQA, impacts would be considered less than significant (Class III).

Impact HYD-7: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ESJ Gen-Tie Project. Impacts would be adverse and would be mitigated with implementation of Mitigation Measures HAZ-5a and HAZ-5b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-8: Under this alternative, as in the proposed ESJ Gen-Tie Project, there would be no septic system. Therefore, no impact would occur (No Impact).

D.12.6.3 ESJ Gen-Tie Underground Alternative Alignment

This alternative would not affect the impact conclusions resulting from implementation of the proposed Tule Wind Project as discussed in Section D.12.3.3. This alternative assumes the

implementation of the ECO Substation Alternative Site and that the water resource impacts identified in Section D.12.4.1 (ECO Substation Alternative Site) would occur.

Environmental Setting/Affected Environment

Section D.12.1.2 describes the existing setting associated with the ESJ Gen-Tie Project. Because this alternative would shift the project approximately 700 feet to the east, the existing setting would be the same as described in Section D.12.1.

Under this alternative, the 230 kV gen-tie line would be installed underground along the alternative alignment located approximately 700 feet to the east. Therefore, the existing setting is as described in Section D.12.6.2.

Environmental Impacts/Environmental Effects

Direct and Indirect *(Note: cumulative effects are addressed in Section F of this EIR/EIS)*

Impact HYD-1: During installation of the underground portion of this alternative, trenching, in addition to grading, would expose soils and remove vegetative cover that would compromise soil structure and increase the risk of erosion. Therefore, impacts to water quality as a result of increased soil erosion associated with this alternative would be adverse and greater than those described for the proposed ESJ Gen-Tie Project. However, as described for the ESJ Gen-Tie Project in Section D.12.3.3, implementation of Mitigation Measures HYD-1 and GEO-1 would mitigate these impacts by requiring that ground disturbance during construction of the underground transmission line would be controlled through implementation of BMPs, such as the use of hay bales, water bars, covers, sediment fences, sensitive area access restrictions (e.g., flagging), vehicle mats in wet areas, and/or retention/settlement ponds, that would be installed before extensive soil clearing and grading began. Under this alternative, the use of these mitigation measures would increase with the increase in ground disturbance. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-2: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ESJ Gen-Tie Project. Impacts would be adverse and would be mitigated with implementation of Mitigation Measures HYD-1, GEO-1, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-3: Under this alternative, trenching to install the transmission line underground would increase the proposed ESJ Gen-Tie Project's excavation and thereby increase the possibility, although it would remain remote, that the project would encounter groundwater during construction. Where the project may encounter groundwater, as described for the ESJ

Gen-Tie Project in Section D.12.3.3, adverse impacts may occur and would be mitigated with implementation of Mitigation Measures HYD-2, HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b. As with excavation under the proposed ESJ Gen-Tie Project, under this alternative, where excavation along the underground portion of the transmission line would potentially expose groundwater, these mitigation measures would ensure that potential groundwater along the proposed underground transmission line route would be identified and that specific procedures would be followed to reduce the risk of accidental spill and groundwater contamination. For this alternative, under CEQA, impacts would be significant and would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-4: As mentioned previously under ESJ-HYD-3, under this alternative, trenching to install the transmission line underground would increase the proposed ESJ Gen-Tie Project's excavation and thereby increase the possibility, although it would remain remote, that the project would encounter groundwater during construction. Trenching would be at a maximum depth of 25 feet. It is unlikely that the project would encounter groundwater during construction. Therefore, under this alternative, depletion of local water supplies as a result of dewatering during construction would be unlikely to occur; impacts would not be adverse; and, under CEQA, impacts would be less than significant (Class III).

Under this alternative, the project would disturb a greater amount of land and would, therefore, require a larger volume of water to support construction activities, such as dust suppression and grading. As described in Section D.12.3.3 for the proposed ESJ Gen-Tie Project, water used during construction is expected to be obtained from an off-site groundwater well owned by the Jacumba Community Services District located on the western edge of the Community of Jacumba, approximately 4.5 miles west of the project site. Water use would be temporary. The increased water supply needed to install the transmission line underground is not expected to significantly increase the required production rate from the well during construction. Therefore, impacts associated with use of the local groundwater would not deplete local water supplies, and impacts would be less than significant (Class III).

Under this alternative, depletion of local water supplied during O&M of the proposed ESJ Gen-Tie Project would not change, would not be adverse, and under CEQA would, therefore, be considered less than significant (Class III).

Impact HYD-5: Under this alternative, the project would not result in an increase in impervious areas. By moving the aboveground transmission lines underground, the project would result in a slightly reduced amount of impervious areas that would otherwise be associated with concrete pads used for the transmission towers. Trenching and recompacting soils along the transmission line, where undergrounding would occur, may slightly increase these soils' imperviousness.

However, with implementation of Mitigation Measure HYD-4, which would include measures such as re-tilling compacted soils and replanting with native vegetation, impacts associated with this alternative would be adverse but mitigated and under CEQA would be less than significant with mitigation implemented (Class II).

Impact HYD-6: Under this alternative, the project would not impact any water features and would not be located in a flood plain. Under this alternative, the project would include fewer aboveground features. The project under this alternative would add fewer impervious surfaces, but it would temporarily disrupt a larger surface area during trenching along the ROW to install the transmission line. Trenching would increase the possibility of erosion during a storm event that could cause adverse impacts. Therefore, under this alternative, impacts associated with flooding resulting from the proposed ESJ Gen-Tie Project would be mitigated with implementation of Mitigation Measures HYD-1 and HYD-4. For this alternative, under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-7: Impacts associated with this alternative are expected to be the same as described in Section D.12.3.3 for the proposed ESJ Gen-Tie Project; impacts would be adverse and would be mitigated with implementation of Mitigation Measures HAZ-5a and HAZ-5b. For this alternative, under CEQA, impacts would be significant but would be mitigated to a level that is considered less than significant (Class II).

Impact HYD-8: Under this alternative, as in the proposed ESJ Gen-Tie Project, there would be no septic system. Therefore, no impact would occur (No Impact).

D.12.7 No Project/No Action Alternatives

D.12.7.1 No Project Alternative 1–No ECO Substation, Tule Wind, ESJ Gen-Tie, Campo, Manzanita, or Jordan Wind Energy Projects

Environmental Impacts/Environmental Effects

Impacts HYD-1 through HYD-8: Under the No Project Alternative 1, the ECO Substation, Tule Wind, and ESJ Gen-Tie, as well as the Campo, Manzanita, and Jordon wind energy projects, would not be built, and the existing conditions would remain at these sites.

Water resources impacts resulting from the Proposed PROJECT would not occur.

D.12.7.2 No Project Alternative 2–No ECO Substation Project

Environmental Impacts/Environmental Effects

Impacts HYD-1 through HYD-8: Under No Project Alternative 2, SDG&E would not construct the proposed ECO Substation Project, and the existing energy grid and environmental setting for hydrologic resources would not be affected at the ECO site. The Tule Wind and ESJ Gen-Tie projects would still be constructed and would be forced to interconnect with an existing or a new substation. Impacts related to hydrologic resources from expanded substations or a new substation would be unknown, but could be greater due to multiple impact locations and longer gen-tie lines. The location of the ECO Substation Project was selected in part to facilitate the interconnection hub concept; it is located near already planned wind generation projects (CAISO Generation Interconnection Queue) and close to a region with favorable wind potential as determined by the Department of Energy Wind Program and the National Renewable Energy Laboratory. Impacts associated with the Tule Wind and ESJ Gen-Tie projects would be expected to be similar to those described in Section D.12.3.3 (Impacts HYD-1 through HYD-8) but could vary depending on the point of interconnection and the resulting gen-tie route and length of the Tule Wind and ESJ Gen-Tie projects.

D.12.7.3 No Project Alternative 3–No Tule Wind Project

Environmental Impacts/Environmental Effects

Impacts HYD-1 through HYD-8: Under No Project Alternative 3, the Tule Wind Project would not be built, and the existing conditions on the project site would remain. The hydrologic resources impacts would be reduced when compared with the proposed project. Impacts relating to hydrologic resources resulting from the Tule Wind Project would not occur. However, impacts associated with the ECO Substation and ESJ Gen-Tie projects would still occur. Furthermore, this alternative does not preclude renewable source of wind energy from being developed in this region of San Diego County.

D.12.7.4 No Project Alternative 4–No ESJ Gen-Tie Project

Environmental Impacts/Environmental Effects

Impacts HYD-1 through HYD-8: Under No Project Alternative 4, the ESJ Gen-Tie Project would not be built. If the ESJ Gen-Tie were not built, renewable energy generated in Mexico would not be delivered to the proposed ECO Substation and the U.S. market.

Under this alternative, Sempra could be forced to add new gen-tie facilities elsewhere in order to deliver renewable energy to the U.S. market. The ESJ Wind Phase I Project in Mexico would still be built under No Project Alternative 4 conditions, and the impacts associated with an

alternative gen-tie would be expected to be similar to those described in Section D.12.3.3 but could vary depending on length of gen-tie line and the location pursued.

D.12.8 Mitigation Monitoring, Compliance, and Reporting

Table D.12.6 presents the mitigation monitoring, compliance, and reporting program for water resources for the ECO Substation, Tule Wind, and ESJ Gen-Tie projects. Section D.12.9 provides the residual effects. Mitigation measures not originating in the water resources analysis do not appear in the table (see Table D.13-9 for Mitigation Measure GEO-1 and Table D.10-13 for Mitigation Measures HAZ-1a through HAZ-1d, HAZ-2a, and HAZ-2b).

The proposed Campo, Manzanita, and Jordan wind energy projects would require preparation of a mitigation monitoring, compliance, and reporting program following project-specific environmental review and evaluation under all applicable environmental regulations once sufficient project-level information has been developed. By including these projects as components of the Proposed PROJECT, it allows the lead agencies to further consider broad policy options and develop mitigation measures that may be required for the project-specific impacts at an early stage in the process for the Campo, Manzanita, and Jordan wind energy projects.

Table D.12-6
Mitigation Monitoring, Compliance, and Reporting–ECO Substation, Tule Wind, and ESJ Gen-Tie Projects–Water Resources

ECO Substation Project	
Mitigation Measure	**HYD-1: A Stormwater Pollution Prevention Plan shall be prepared to reduce soil erosion during construction.** In compliance with the new SWRCB's NPDES General Permit for Storm Water Associated with Construction Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, effective July 1, 2010), SDG&E shall prepare a project-specific SWPPP before construction begins, and it shall be kept on site throughout the construction process. The SWPPP shall include the following: • Identification of pollutant sources and non-stormwater discharges associated with construction activity. • Specifications for BMPs that shall be implemented during project construction to minimize the potential for accidental releases and runoff from the construction areas, including temporary construction yards, pull sites, and helicopter landing zones. Specifications shall include: ○ A plan for training construction crews ○ A plan for monitoring and inspecting BMPs and site conditions ○ A plan for sampling and analysis of pollutants (as necessary). • Where applicable, the following shall apply: ○ Construction impacts shall be minimized to the greatest extent possible ○ Upon completion of construction phases, roadways shall be reduced to minimum widths needed ○ Areas disturbed during construction shall be revegetated to their natural states

Table D.12-6 (Continued)

	○ Construction roadways shall follow natural contours to the extent practical and be designed to minimize stream crossings, avoid wetlands, and maintain surface water runoff patterns to prevent erosion ○ CDFG guidelines for culverts shall be followed to minimize long-term maintenance and meet a 10-year rain event to minimize trapping of sediment. • Where applicable, the following shall apply to reduce the release of contaminants to the local surface and groundwater: ○ For on-site storm drain inlets, mark all inlets with the words "No Dumping! Flows to Sensitive Habitat" or similar. ○ For landscaping, show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained. Show self-retaining landscape, if any. State that final landscape plans will preserve existing native trees, shrubs, and ground cover will cover maximum extent possible. ○ Design landscaping to minimize irrigation, runoff, and use of pesticides and fertilizers that contribute to stormwater pollution. Select plants that are appropriate for site soils, slopes, climate, wind, sun, rain, land use, ecological consistency, and plant interactions. ○ For outdoor storage of equipment or materials, show storage areas and how they will be covered and what structural features or grading will be incorporated to prevent pollutants from discharging from the site. ○ Designate areas for vehicle/equipment repair, maintenance, and cleaning, and document how these areas will be contained to prevent pollutant runoff. ○ For leaking or failure of large power transformers, have 100% containment at each power transformer.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	CPUC and BLM will review SDG&E's SWPPP and ensure its implementation
Effectiveness Criteria	Construction and BMPs in place during construction, and kept operating as long as needed. Mitigation measure is effective if water quality near the project is maintained
Responsible Agency	CPUC/BLM
Timing	Prior to and during construction.
Mitigation Measure	**HYD-2: Avoidance and preventative measures to protect local groundwater during excavation.** Prior to excavation, a qualified geologist/hydrologist shall determine the depth of groundwater in areas where excavation would occur. The project shall be designed to avoid areas of shallow groundwater where feasible. In such areas where groundwater cannot be avoided during excavation, the site shall be dewatered during construction, and materials that could contaminate the groundwater shall be kept at least 200 feet from the dewatering activities. An NPDES permit shall be obtained for proper disposal of water. Treatment may be required prior to discharge.
Location	Along entire Project Site
Monitoring/Reporting Action	CPUC and BLM will ensure dewatering is completed consistent with NPDES permit requirements.
Effectiveness Criteria	Approval and implementation of the construction plans
Responsible Agency	CPUC/BLM
Timing	Prior to and during construction.
Mitigation Measure	**HYD-3: Identification of sufficient water supply** Prior to construction SDG&E will prepare comprehensive documentation that identifies one or more confirmed, reliable water sources that when combined meet the project's full water

Table D.12-6 (Continued)

	supply construction needs. Documentation will consist of the following: • *Preparation of a groundwater study*. For well water that is to be used, the applicant will commission a groundwater study by a qualified hydrogeologist to assess the existing condition of the underlying groundwater/aquifer and all existing wells (with owner's permission) in the vicinity of proposed well location/water sources. The groundwater study will evaluate aquifer properties and aquifer storage. The groundwater study will estimate short and long-term well water supplies from each well proposed to be used, and documentation indicating that each well is capable of producing the total amount of water to be supplied for construction from each well. The groundwater study will estimate short- and long-term impacts of the use of the well(s) on the local groundwater production (short-term extraction for construction water and ongoing O&M water), on all project wells, and on other wells in the project area. The groundwater study will include an assessment of the potential for subsidence brought on by project-related water use in the area. The applicant will provide demonstration of compliance will all applicable laws and regulations and will obtain a County of San Diego Major Use Permit for use of any proposed well prior to construction. • *Documentation of Purchased Water Source(s*). For water that is to be purchased from one or more water/utility district(s), the applicant shall provide written documentation from such district(s) indicating the total amount of water to be provided and the time frame that the water will be made available to the project. The Sweetwater Authority has provided written confirmation of water availability to support the project. Total confirmed water supplies from the combination of above documented sources shall equal the total gallons of water needed through construction of the project.
Location	Along entire Proposed Project site
Monitoring/Reporting Action	CPUC and BLM will review SDG&E's groundwater study and ensure its implementation
Effectiveness Criteria	Water Study verified groundwater quantities and Will Serve Letter quantities add up to equal estimated project construction water needs
Responsible Agency	CPUC/BLM
Timing	Submittal of groundwater study to CPUC and BLM a minimum 60 days prior to project design being completed.
Mitigation Measure	**HYD-4: Preparation of a Stormwater Management Plan.** SDG&E shall commission an SWMP in compliance with the County of San Diego Major Storm Water Management Plan. The SWMP shall be project specific and developed in conjunction with project design. The SWMP shall include site design BMPs that, where applicable, shall: • Maintain predevelopment rainfall runoff characteristics. The BMPs shall: o Locate the project and road improvement alignments to avoid or minimize impacts to receiving waters or to increase the preservation of critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions o Minimize the project's impervious footprint. o Conserve natural and critical areas, such as floodplains, steep slopes, wetlands, and areas with erosive and unstable soil conditions o Where landscape is proposed, drain rooftops, impervious sidewalks, walkways, trails, and patios into adjacent landscaping o Design and locate roadway structures and bridges to reduce the amount of work in live streams, and minimize the construction impacts o Implement the following methods to minimize erosion from slopes: ▪ Disturb existing slopes only when necessary

Table D.12-6 (Continued)

	▪ Minimize cut-and-fill areas to reduce slope lengths ▪ Incorporate retaining walls to reduce steepness of slopes or to shorten slopes ▪ Provide benches or terraces on high cut-and-fill slopes to reduce concentration of flows ▪ Round and shape slopes to reduce concentrated flow ▪ Collect concentrated flows in stabilized drains and channels. • Protect slopes and channels. The BMPs shall: o Minimize disturbances to natural drainages o Convey runoff safely from the tops of slopes o Vegetate slopes with native or drought-tolerant vegetation o Stabilize permanent channel crossings o Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters. o Include other design principles that are comparable and equally effective. • The SWMP shall also incorporate Low Impact Development Features into the project, including but not limited to: o Preserve well-draining soils (Type A or B) o Preserve significant trees o Set back development envelope from drainages o Restrict heavy construction equipment access to planned green/open space areas o Re-till soils compacted by construction vehicles/equipment o Collect and reuse upper soil layers of development site containing organic materials o Curb cuts to landscaping o Use rural swales o Use concave median o Use permeable pavements o Pitch pavements toward landscaping o Use cisterns and rain barrels o Downspout to swale o Use vegetated roofs o Use soil amendments o Reuse native soils o Use smart irrigation systems o Use street trees (HDR 2009b). The SWMP shall ensure that the project follows CDFG guidelines for culverts to minimize long-term maintenance and meet a 10-year rain event to minimize the trapping of sediment.
Location	Along entire Proposed Project Site
Monitoring/Reporting Action	San Diego County Department of Public Works shall ensure the SWMP is in compliance with the County of San Diego Major Storm Water Management Plan and its implementation as written.
Effectiveness Criteria	Approval and implementation of the SWMP
Responsible Agency	CPUC/BLM
Timing	A SWMP that has been reviewed and approved by the San Diego County Department of Public Works shall be submitted to CPUC and BLM 30 days prior to project construction

Table D.12-6 (Continued)

Mitigation Measure	**HYD-5: Implementation of creek-crossing procedures.** Creek crossing shall use jack-and-bore procedures to avoid direct impacts and shall be conducted in a manner that does not result in sediment-laden discharge or hazardous materials release to the water body. The following measures shall be implemented during horizontal boring (jack-and-bore) operations: (1) Site preparation shall begin no more than 10 days prior to initiating horizontal bores to reduce the time soils are exposed adjacent to creeks and drainages. (2) Trench and/or bore pit spoil shall be stored a minimum of 25 feet from the top of the bank or wetland/riparian boundary. Spoils shall be stored behind a sediment barrier and covered with plastic or otherwise stabilized (i.e., tackifiers, mulch, or detention). (3) Portable pumps and stationary equipment located within 100 feet of a water resource (i.e., wetland/riparian boundary, creeks, and drainages) shall be placed within secondary containment with adequate capacity to contain a spill (i.e., a pump with 10-gallon fuel or oil capacity should be placed in secondary containment capable of holding 15 gallons). A spill kit shall be maintained on site at all times. (4) Immediately following backfill of the bore pits, disturbed soils shall be seeded and stabilized to prevent erosion, and temporary sediment barriers shall be left in place until restoration is deemed successful. (5) The applicant shall obtain the required permits prior to conducting work associated with horizontal directional drilling activities. Required permits may include ACOE CWA Section 404, Regional Water Quality Control Board Clean Water Act 401, and CDFG Streambed Alteration Agreement 1602. The applicant shall implement all pre- and post-construction conditions identified in the permits issued for the horizontal directional drilling. The plan shall be submitted to the CPUC, BLM, and ACOE 60 days prior to construction.
Location	Along underground portion of transmission line, where applicable
Monitoring/Reporting Action	SDG&E to prepare a directional drill plan with associated SWPPP for CPUC, BLM, and ACOE approval prior to construction, when applicable
Effectiveness Criteria	Directional drilling rather than trenching, where applicable
Responsible Agency	CPUC/BLM/ACOE
Timing	Prior to and during construction
Mitigation Measure	**HYD-6: Horizontal Directional Drill Contingency Plan.** SDG&E shall prepare a Horizontal Directional Drill Contingency Plan to address procedures for containing an inadvertent release of drilling fluid (frac-out). The plan shall contain specific measures for monitoring frac-outs, for containing drilling mud, and for notifying agency personnel. The plan shall also discuss spoil stockpile management, hazardous materials storage and spill cleanup, site-specific erosion and sediment control, and housekeeping procedures, as described in the SWPPP. The plan shall be submitted to the CPUC, BLM, and ACOE 60 days prior to construction. SDG&E shall obtain the required permits prior to conducting work associated with horizontal directional drilling activities. Required permits may include U.S. Army Corps of Engineers Clean Water Act Section 404, Regional Water Quality Control Board Clean Water Act 401, and CDFG Streambed Alteration Agreement Section 1602. SDG&E shall implement all pre- and post-construction conditions identified in the permits issued for the horizontal directional drilling.
Location	Along underground portion of transmission line, where applicable
Monitoring/Reporting Action	SDG&E to prepare a horizontal direction drill plan with associated SWPPP for CPUC, BLM, and ACOE approval prior to construction, when applicable
Effectiveness Criteria	Approval and implementation of Horizontal Directional Drill Contingency Plan, if necessary

Table D.12-6 (Continued)

Responsible Agency	CPUC/BLM/ACOE
Timing	Prior to and during construction
Mitigation Measure	**HYD-7: Bury power line below 100-year scour depth.** At locations where the buried power line is to be at or adjacent to a streambed capable of scour, the power line shall be located below the expected depth of scour from a 100-year flood, or otherwise protected from exposure by scour that, for purposes of this mitigation measure, also includes lateral (stream bank) erosion and potential scour associated with flows overtopping or bypassing a culvert or bridge crossing. During final design, a registered civil engineer with expertise in hydrology, hydraulics, and river mechanics shall make a determination of where the underground line could be at risk of exposure through scour or erosion from a 100-year event.
Location	Along underground portion of transmission line, where applicable
Monitoring/Reporting Action	SDG&E to provide CPUC and BLM with an engineering report, sealed by a civil engineer registered in the State of California, demonstrating project components that may reasonably be subject to erosion during the life of the project. The report shall also provide plans for protection from scour, as well as an engineering demonstration that the project components will not induce erosion onto adjacent property. CPUC and BLM to monitor to verify compliance during construction.
Effectiveness Criteria	Project components to withstand scour with no adverse effect on adjacent property.
Responsible Agency	CPUC/BLM
Timing	Engineering evaluation, and associated scour/erosion protection design plans, shall be submitted to the CPUC and BLM for review and approval 60 days prior to the initiation of construction. Compliance to be ensured during construction.
Tule Wind Project	
Mitigation Measure	**HYD-1: A Stormwater Pollution Prevention Plan shall be prepared to reduce soil erosion during construction.** In compliance with the new SWRCB's NPDES General Permit for Storm Water Associated with Construction Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, effective July 1, 2010), Pacific Wind Development shall prepare a project-specific SWPPP. The SWPPP shall be prepared before construction begins and kept on site throughout the construction process. The SWPPP shall include: • Identification of pollutant sources and non-stormwater discharges associated with construction activity. • Specifications for BMPs that shall be implemented during project construction to minimize the potential for accidental releases and runoff from the construction areas, including temporary construction yards, pull sites, and helicopter landing zones. Specifications shall include: ○ A plan for training construction crews ○ A plan for monitoring and inspecting BMPs and site conditions ○ A plan for sampling and analysis of pollutants (as necessary). Where applicable, the following shall apply: • Construction impacts shall be minimized to the greatest extent possible • Upon completion of construction phases, roadways shall be reduced to minimum widths needed • Areas disturbed during construction shall be revegetated to their natural states • Construction roadways shall follow natural contours to the extent practical and be designed to minimize stream crossings, avoid wetlands, and maintain surface water runoff patterns to prevent erosion

Table D.12-6 (Continued)

	• CDFG guidelines for culverts shall be followed to minimize long term maintenance and meet a 10-year rain event to minimize trapping of sediment. • Where applicable, the following shall apply to reduce the release of contaminants to the local surface and groundwater: o For on-site storm drain inlets, mark all inlets with the words "No Dumping! Flows to Sensitive Habitat" or similar. o For landscaping, show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained. Show self-retaining landscape, if any. State that final landscape plans will preserve existing native trees, shrubs, and ground cover will cover maximum extent possible. o Design landscaping to minimize irrigation, runoff, and use of pesticides and fertilizers that contribute to stormwater pollution. Select plants that are appropriate for site soils, slopes, climate, wind, sun, rain, land use, ecological consistency, and plant interactions. o For outdoor storage of equipment or materials, show storage areas and how they will be covered and what structural features or grading will be incorporated to prevent pollutants from discharging from the site. o Designate areas for vehicle/equipment repair, maintenance, and cleaning, and document how these areas will be contained to prevent pollutant runoff. o For leaking or failure of large power transformers, have 100% containment at each power transformer.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, will ensure its implementation
Effectiveness Criteria	Construction and BMPs in place during construction, and kept operating as long as needed. Mitigation measure is effective if water quality near the project is maintained.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to and during construction.
Mitigation Measure	**HYD-2: Avoidance and preventative measures to protect local groundwater during excavation.** Prior to excavation, a qualified geologist/hydrologist shall determine the depth of groundwater in areas where excavation would occur. The project shall be designed to avoid areas of shallow groundwater where feasible. In such areas where groundwater cannot be avoided during excavation, the site shall be dewatered during construction, and materials that could contaminate the groundwater shall be kept at least 200 feet from the dewatering activities. An NPDES permit shall be obtained for proper disposal of water. Treatment may be required prior to discharge.
Location	Along entire Proposed Project Site
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, will ensure dewatering is completed consistent with NPDES permit requirements.
Effectiveness Criteria	Approval and implementation of the construction plans
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to and during construction

Table D.12-6 (Continued)

Mitigation Measure	**HYD-3: Identification of sufficient water supply.** Prior to construction Pacific Wind Development will prepare comprehensive documentation that identifies one or more confirmed, reliable water sources that when combined meet the project's full water supply construction needs. Documentation will consist of the following: • *Preparation of a groundwater study. For well water that is to be used, the applicant will commission a groundwater study* by a qualified hydrogeologist to assess the existing condition of the underlying groundwater/aquifer and all existing wells (with owner's permission) in the vicinity of proposed well location/water sources. The groundwater study will evaluate aquifer properties and aquifer storage. The groundwater study will estimate short and long-term well water supplies from each well proposed to be used, and documentation indicating that each well is capable of producing the total amount of water to be supplied for construction from each well. The groundwater study will estimate short- and long-term impacts of the use of the well(s) on the local groundwater production (short-term extraction for construction water and ongoing O&M water), on all project wells, and on other wells in the project area. The groundwater study will include an assessment of the potential for subsidence brought on by project-related water use in the area. The applicant will provide demonstration of compliance will all applicable laws and regulations and will obtain a County of San Diego Major Use Permit for use of any proposed well prior to construction. • *Documentation of Purchased Water Source(s*). For water that is to be purchased from one or more water/utility district(s), the applicant shall provide written documentation from such district(s) indicating the total amount of water to be provided and the time frame that the water will be made available to the project. (Confirmed potential water district sources include the Jacumba Community Services District and the Live Oak Springs Water Company). Total confirmed water supplies from the combination of above documented sources shall equal the total gallons of water needed through construction of the project.
Location	Along entire Proposed Project site and alternatives
Monitoring/Reporting Action	BLM, San Diego County, RWQCB
Effectiveness Criteria	Water Study verified groundwater quantities and Will Serve Letter quantities add up to equal estimated project construction water needs
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay
Timing	Minimum 60 days prior to project construction
Mitigation Measure	**HYD-4: Stormwater Management Plan.** The applicant shall commission an SWMP in compliance with the County of San Diego Major Storm Water Management Plan. The SWMP shall be project specific and developed in conjunction with project design. The SWMP shall include site design BMPs that, where applicable, shall: • Maintain pre-development rainfall runoff characteristics. The BMPs shall: o Locate the project and road improvement alignments to avoid or minimize impacts to receiving waters or to increase the preservation of critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions. o Minimize the project's impervious footprint. o Conserve natural and critical areas, such as floodplains, steep slopes, wetlands, and areas with erosive and unstable soil conditions o Where landscape is proposed, drain rooftops, impervious sidewalks, walkways, trails, and patios into adjacent landscaping.

Table D.12-6 (Continued)

	○ Design and locate roadway structures and bridges to reduce the amount of work in live streams, and minimize the construction impacts. ○ Implement the following methods to minimize erosion from slopes: ▪ Disturb existing slopes only when necessary ▪ Minimize cut-and-fill areas to reduce slope lengths ▪ Incorporate retaining walls to reduce steepness of slopes or to shorten slopes ▪ Provide benches or terraces on high cut-and-fill slopes to reduce concentration of flows; ▪ Round and shape slopes to reduce concentrated flow ▪ Collect concentrated flows in stabilized drains and channels. • Protect slopes and channels. The BMPs shall: ○ Minimize disturbances to natural drainages. ○ Convey runoff safely from the tops of slopes. ○ Vegetate slopes with native or drought tolerant vegetation. ○ Stabilize permanent channel crossings. ○ Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters. ○ Include other design principles that are comparable and equally effective. ○ The SWMP shall also incorporate Low Impact Development Features into the project, including but not limited to: ▪ Preserve well-draining soils (Type A or B) ▪ Preserve significant trees ▪ Set back development envelope from drainages ▪ Restrict heavy construction equipment access to planned green/open space areas ▪ Re-till soils compacted by construction vehicles/equipment ▪ Collect and reuse upper soil layers of development site containing organic materials ▪ Curb cuts to landscaping ▪ Use rural swales ▪ Use concave median ▪ Use permeable pavements ▪ Pitch pavements toward landscaping ▪ Use cisterns and rain barrels ▪ Downspout to swale ▪ Use vegetated roofs ▪ Use soil amendments ▪ Reuse native soils ▪ Use smart irrigation systems ▪ Use street trees (HDR 2009b) The SWMP shall ensure that the project follows CDFG guidelines for culverts to minimize long-term maintenance and meet a 10-year rain event to minimize the trapping of sediment. The San Diego County Department of Public Works shall ensure that the SWMP is implemented as proposed.
Location	Along entire Proposed Project Site

Table D.12-6 (Continued)

Monitoring/Reporting Action	San Diego County Department of Public Works shall ensure the SWMP is in compliance with the County of San Diego Major Storm Water Management Plan
Effectiveness Criteria	Approval and implementation of the SWMP
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	A SWMP that has been reviewed and approved by the San Diego County Department of Public Works shall be submitted to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, 30 days prior to project construction
Mitigation Measure	**HYD-5: Creek-crossing procedures.** Creek crossing shall use jack-and-bore procedures to avoid direct impacts and shall be conducted in a manner that does not result in sediment-laden discharge or hazardous materials release to the water body. The following measures shall be implemented during horizontal boring (jack-and-bore) operations: (1) Site preparation shall begin no more than 10 days prior to initiating horizontal bores to reduce the time soils are exposed adjacent to creeks and drainages. (2) Trench and/or bore pit spoil shall be stored a minimum of 25 feet from the top of the bank or wetland/riparian boundary. Spoils shall be stored behind a sediment barrier and covered with plastic or otherwise stabilized (i.e., tackifiers, mulch, or detention). (3) Portable pumps and stationary equipment located within 100 feet of a water resource (i.e., wetland/riparian boundary, creeks, and drainages) shall be placed within secondary containment with adequate capacity to contain a spill (i.e., a pump with 10-gallon fuel or oil capacity should be placed in secondary containment capable of holding 15 gallons). A spill kit shall be maintained on site at all times. (4) Immediately following backfill of the bore pits, disturbed soils shall be seeded and stabilized to prevent erosion, and temporary sediment barriers shall be left in place until restoration is deemed successful. (5) The applicant shall obtain the required permits prior to conducting work associated with horizontal directional drilling activities. Required permits may include ACOE CWA Section 404, Regional Water Quality Control Board Clean Water Act 401, and CDFG Streambed Alteration Agreement 1602. The applicant shall implement all pre- and post-construction conditions identified in the permits issued for the horizontal directional drilling. The plan shall be submitted to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians depending on the jurisdiction where the construction activities are being completed, 60 days prior to construction.
Location	Along underground portion of transmission line, where applicable
Monitoring/Reporting Action	Pacific Wind Development to prepare a directional drill plan with associated SWPPP for BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, for approval prior to construction.
Effectiveness Criteria	Directional drilling rather than trenching, where applicable.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to and during construction
Mitigation Measure	**HYD-6: Horizontal Directional Drill Contingency Plan.** Pacific Wind Development shall prepare a Horizontal Directional Drill Contingency Plan to address procedures for containing an inadvertent release of drilling fluid (frac-out). The plan shall contain specific measures for monitoring frac-outs, for containing drilling mud, and for notifying agency personnel. The plan shall also discuss spoil stockpile management, hazardous materials storage and spill clean-up, site-specific erosion and sediment control, and housekeeping procedures, as described in the SWPPP. The plan shall be submitted to BLM, San Diego County, CSLC,

Table D.12-6 (Continued)

	BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians depending on the jurisdiction where the construction activities are being completed 60 days prior to construction. Pacific Wind Development shall obtain the required permits prior to conducting work associated with horizontal directional drilling activities. Required permits may include U.S. Army Corps of Engineers Clean Water Act Section 404, Regional Water Quality Control Board Clean Water Act 401, and CDFG Streambed Alteration Agreement Section 1602. Pacific Wind Development shall implement all pre- and post-construction conditions identified in the permits issued for the horizontal directional drilling.
Location	Along underground portion of transmission line, where applicable
Monitoring/Reporting Action	Pacific Wind Development to prepare a horizontal directional drill plan with associated SWPPP for BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, approval prior to construction
Effectiveness Criteria	Approval and implementation of Horizontal Directional Drill Contingency Plan, if necessary
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to and during construction
Mitigation Measure	**HYD-7: Bury power line below 100-year scour depth.** At locations where the buried power line is to be at or adjacent to a streambed capable of scour, the power line shall be located below the expected depth of scour from a 100-year flood, or otherwise protected from exposure by scour which, for purposes of this mitigation measure, also includes lateral (stream bank) erosion and potential scour associated with flows overtopping or bypassing a culvert or bridge crossing. During final design, a registered civil engineer with expertise in hydrology, hydraulics, and river mechanics shall make a determination of where the underground line could be at risk of exposure through scour or erosion from a 100-year event.
Location	Along underground portion of transmission line, where applicable
Monitoring/Reporting Action	Pacific Wind Development to provide BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians depending on the jurisdiction where the construction activities are being completed, 60 days prior to construction, with an engineering report, sealed by a civil engineer registered in the State of California, demonstrating project components that may reasonably be subject to erosion during the life of the project. The report shall also provide plans for protection from scour, as well as an engineering demonstration that the project components will not induce erosion onto adjacent property. BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, monitor to verify compliance during construction
Effectiveness Criteria	Project components to withstand scour with no adverse effect on adjacent property.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Compliance to be ensured during construction.
ESJ Gen-Tie Project	
Mitigation Measure	**HYD-1: A Stormwater Pollution Prevention Plan shall be prepared to reduce soil erosion during construction.** In compliance with the new SWRCB's NPDES General Permit for Storm Water Associated with Construction Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, effective July 1, 2010), Energia Sierra Juarez U.S. Transmission, LLC, shall prepare a project-specific SWPPP before construction begins, and it shall be kept on site throughout the construction process. The SWPPP shall include: • Identification of pollutant sources and non-stormwater discharges associated with construction activity.

Table D.12-6 (Continued)

	• Specifications for BMPs that shall be implemented during project construction to minimize the potential for accidental releases and runoff from the construction areas, including temporary construction yards, pull sites, and helicopter landing zones. Specifications include: o A plan for training construction crews o A plan for monitoring and inspecting BMPs and site conditions o A plan for sampling and analysis of pollutants (as necessary). • Where applicable, the following shall apply: o Construction impacts shall be minimized to the greatest extent possible o Upon completion of construction phases roadways shall be reduced to minimum widths needed o Areas disturbed during construction shall be revegetated to their natural states o Construction roadways shall follow natural contours to the extent practical and be designed to minimize stream crossings, avoid wetlands, and maintain surface water runoff patterns to prevent erosion o CDFG guidelines for culverts shall be followed to minimize long-term maintenance and meet a 10-year rain event to minimize trapping of sediment. • Where applicable, the following shall apply to reduce the release of contaminants to the local surface and groundwater: o For on-site storm drain inlets, mark all inlets with the words "No Dumping! Flows to Sensitive Habitat" or similar. o For landscaping, show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained. Show self-retaining landscape, if any. State that final landscape plans will preserve existing native trees, shrubs, and ground cover will cover maximum extent possible. o Design landscaping to minimize irrigation, runoff, and use of pesticides and fertilizers that contribute to stormwater pollution. Select plants that are appropriate for site soils, slopes, climate, wind, sun, rain, land use, ecological consistency, and plant interactions. o For outdoor storage of equipment or materials, show storage areas and how they will be covered and what structural features or grading will be incorporated to prevent pollutants from discharging from the site. o Designate areas for vehicle/equipment repair, maintenance, and cleaning, and document how these areas will be contained to prevent pollutant runoff. o For leaking or failure of large power transformers, have 100% containment at each power transformer.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	County of San Diego will review project applicant's SWPPP and ensure its implementation.
Effectiveness Criteria	Construction and BMPs in place during construction, and kept operating as long as needed. Mitigation measure is effective if water quality near the project is maintained.
Responsible Agency	County of San Diego
Timing	Prior to and during construction.
Mitigation Measure	**HYD-2: Avoidance and preventative measures to protect local groundwater during excavation.** Prior to excavation, a qualified geologist/hydrologist shall determine the depth of groundwater in areas where excavation would occur. The project shall be designed to avoid areas of shallow groundwater where feasible. In such areas where groundwater cannot be avoided during excavation, the site shall be dewatered during construction, and materials that could contaminate the groundwater shall be kept at least 200 feet from the

Table D.12-6 (Continued)

	dewatering activities. An NPDES permit shall be obtained for proper disposal of water. Treatment may be required prior to discharge.
Location	Along entire Proposed Project site
Monitoring/Reporting Action	San Diego County will ensure dewatering is completed consistent with NPDES permit requirements.
Effectiveness Criteria	Approval and implementation of the construction plans
Responsible Agency	County of San Diego
Timing	During project design and construction
Mitigation Measure	**HYD-4: Preparation of a Stormwater Management Plan.** Energia Sierra Juarez U.S. Transmission, LLC, shall commission an SWMP in compliance the County of San Diego Major Storm Water Management Plan. The SWMP shall be project specific and developed in conjunction with project design. The SWMP shall include site design BMPs that, where applicable, shall: • Maintain pre-development rainfall runoff characteristics. The BMPs shall: o Locate the project and road improvement alignments to avoid or minimize impacts to receiving waters or to increase the preservation of critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions. o Minimize the project's impervious footprint. o Conserve natural and critical areas, such as floodplains, steep slopes, wetlands, and areas with erosive and unstable soil conditions o Where landscape is proposed, drain rooftops, impervious sidewalks, walkways, trails and patios into adjacent landscaping. o Design and locate roadway structures and bridges to reduce the amount of work in live streams and minimize the construction impacts. o Implement the following methods to minimize erosion from slopes: ▪ Disturb existing slopes only when necessary ▪ Minimize cut-and-fill areas to reduce slope lengths ▪ Incorporate retaining walls to reduce steepness of slopes or to shorten slopes ▪ Provide benches or terraces on high cut-and-fill slopes to reduce concentration of flows ▪ Round and shape slopes to reduce concentrated flow ▪ Collect concentrated flows in stabilized drains and channels. • Protect slopes and channels. The BMPs shall: o Minimize disturbances to natural drainages. o Convey runoff safely from the tops of slopes. o Vegetate slopes with native or drought-tolerant vegetation. o Stabilize permanent channel crossings. o Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters. o Include other design principles that are comparable and equally effective. o The SWMP shall also incorporate Low Impact Development Features into the project, including but not limited to: ▪ Preserve well-draining soils (Type A or B) ▪ Preserve significant trees

Table D.12-6 (Continued)

	▪ Set back development envelope from drainages ▪ Restrict heavy construction equipment access to planned green/open space areas ▪ Re-till soils compacted by construction vehicles/equipment ▪ Collect and reuse upper soil layers of development site containing organic materials ▪ Curb cuts to landscaping ▪ Use rural swales ▪ Use concave median ▪ Use permeable pavements ▪ Pitch pavements toward landscaping ▪ Use cisterns and rain barrels ▪ Downspout to swale ▪ Use vegetated roofs ▪ Soil amendments ▪ Reuse native soils ▪ Use smart irrigation systems ▪ Use street trees (HDR 2009b) The SWMP shall ensure that the project follows CDFG guidelines for culverts to minimize long-term maintenance and meet a 10-year rain event to minimize the trapping of sediment. The San Diego County Department of Public Works shall ensure that the SWMP is implemented as proposed.
Location	Along entire Proposed Project site
Monitoring/Reporting Action	San Diego County Department of Public Works shall ensure the SWMP is in compliance with the County of San Diego Major Storm Water Management Plan
Effectiveness Criteria	Approval and implementation of Stormwater Management Plan
Responsible Agency	County of San Diego
Timing	A SWMP that has been reviewed and approved by the San Diego County Department of Public Works 30 days prior to project construction

D.12.9 Residual Effects

Implementation of the mitigation measures presented in Section D.12.8 would mitigate all impacts, and under CEQA, all impacts would be mitigated to less than significant; therefore, no residual impacts would occur for the Proposed PROJECT or alternatives.

D.12.10 References

14 CCR 15000–15387 and Appendix A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

33 U.S.C. 1251–1387. Federal Water Pollution Control Act (commonly referred to as the Clean Water Act), as amended.

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