

4.9 Hydrology and Water Quality

This section describes the hydrology and water quality in the area of the Proposed Project. The potential impacts of the Proposed Project and the Alternative Project are also discussed. The Proposed Project is located in the Whitewater, Santa Ana River, and San Jacinto River Hydrologic Units (watersheds) (refer to Figure 4.9-1, Watersheds and Flood Zones). In addition, the Proposed Project is located within two primary groundwater basins, the Coachella Valley and the Upper Santa Ana Valley Groundwater Basins.

For purposes of this section, the Project Study Area is defined as the locations where work described in Chapter 3.0, Project Description would be performed. An additional Project Study Area buffer is not included because both temporary construction and permanent disturbance limits are based on disturbance activity as included in Chapter 3.0, Project Description.

4.9.1 Environmental Setting

The Project Study Area includes the cities of Banning, Beaumont, Calimesa, Colton, Grand Terrace, Loma Linda, Palm Springs, Rancho Cucamonga, Redlands, San Bernardino, and Yucaipa, and unincorporated areas of Riverside and San Bernardino counties. The Proposed Project component in the City of Rancho Cucamonga is limited to improvements within the Mechanical Electrical Equipment Room (MEER) at Etiwanda Substation. The extent of this work within an existing facility would not have the potential to impact hydrology or water quality in the City of Rancho Cucamonga; therefore, the City of Rancho Cucamonga is not included for further discussion.

This section describes the extent and nature of the surface water resources, groundwater resources, and floodplains in the Project Study Area. Information was obtained from the Hydrology and Water Resources Evaluation, prepared by Ninyo & Moore Geotechnical and Environmental Sciences Consultants on June 7, 2013, which is included in this PEA as Appendix I, Hydrology and Water Quality.

4.9.1.1 Surface Water Resources

A watershed is the geographic area draining into a river system, ocean, or other body of water through a single outlet, and includes the receiving waters of that system. Watersheds are usually bordered and separated from other watersheds by mountain ridges or other naturally elevated areas, and can contain multiple subwatersheds. The Santa Ana and Colorado River Basin Regional Water Quality Control Boards (RWQCBs) use a watershed classification system that divides surface waters into Hydrologic Units. As defined in the RWQCBs Water Quality Control Plans (Basin Plans) for the Colorado River Basin and the Santa Ana River Basin, the Proposed Project study area traverses two primary Hydrologic Units (or watersheds), the Whitewater and the Santa Ana River Hydrologic Units, and also crosses a small part of the San Jacinto Valley Hydrologic Unit (refer to Figure 4.9-2, Surface Hydrology).

The Whitewater Hydrologic Unit encompasses portions of the Project Study Area from Devers Substation west to a topographic drainage divide located between the City of Banning and the City of Beaumont. The Whitewater Hydrologic Unit is a closed basin and drains southeastward through the Coachella Valley into the Salton Sea.¹ The Whitewater Hydrologic Unit is located within the larger Colorado River Hydrologic Region, covering the southeastern corner of the State. The Whitewater Hydrologic Unit is within the jurisdiction of the Colorado River RWQCB.

The Santa Ana River Hydrologic Unit encompasses the western portions of the Project Study Area. The Santa Ana River generally flows southwestward and drains into the Pacific Ocean. The San Jacinto Valley Hydrologic Unit intersects with the Proposed Project Study Area along Segment 4 in the Beaumont and Cherry Valley area. Both the Santa Ana River and San Jacinto Valley Hydrologic Units are located within the larger South Coast Hydrologic Region. The Santa Ana River and San Jacinto Valley Hydrologic Units are within the jurisdiction of the Santa Ana RWQCB.

Due to seasonal variability in rainfall and climate, many of the rivers and streams in the Project Study Area vary between ephemeral, intermittent, and perennial. An ephemeral stream is a stream or reach of channel that flows in response to precipitation in the immediate locality, and whose channel is above the zone of saturation. An intermittent stream is a stream or a reach of a channel which flows during certain times of year; for example, when it receives water from a spring, seep, melting snowpack from higher elevations, or other periodic source. A perennial stream or river is a stream, river, or reach of channel that flows throughout the year, and whose upper surface is generally below the upper zone of saturation.

The Proposed Project crosses ephemeral and intermittent creeks and canyon washes in the undeveloped rural areas of the existing WOD corridor. Riverside and San Bernardino counties maintain storm drain channels within the urbanized areas of the Proposed Project, including areas in the cities of Banning, Beaumont, Loma Linda, and Grand Terrace. Table 4.9-1, Surface Water Features Crossed by the Proposed Project, summarizes the locations of the principal rivers, creeks, washes, and channels crossed by the segments of the Proposed Project.

Two major perennial rivers are located near the Project Study Area: 1) the Santa Ana River and 2) the Whitewater River. The Santa Ana River is located near the west end of the Proposed Project (Segment 2) below Vista Substation in the Grand Terrace area, and is also located approximately one-half mile north of San Bernardino Substation. This river originates in the San Bernardino Mountains and flows through San Bernardino, Riverside, and Orange counties southwesterly toward the Pacific Ocean. It transports more than 125 million gallons per day of recycled water from Riverside and San Bernardino counties for recharge into the Orange County Groundwater Basin and satisfies approximately 40 percent of Orange County's water demand. The Proposed

¹ Closed basins are areas where topography prevents the outflow of water. Surface runoff in the Whitewater Hydrologic Unit terminates at the Salton Sea in the Colorado Desert. The Salton Sea is a lake that has no outlet and does not discharge to the ocean.

Project crosses the Whitewater River in Segment 6 approximately 4 miles west of Devers Substation. This river is the major drainage course in the Coachella Valley. There is perennial flow in the mountainous area of the Whitewater River, but because of diversions and percolation into the Whitewater Basin, the river becomes dry downstream (east) of the Project Study Area. The constructed downstream extension of the Whitewater River Channel, known as the Coachella Valley Storm Water Channel, serves as drainage way for irrigation return flows, treated community wastewater, and storm runoff.

Table 4.9-1: Surface Water Features Crossed by the Proposed Project

Surface Water Feature	Segment	Location
Mission Channel/Zanja Creek	Segment 1	South of San Bernardino Substation
San Timoteo Canyon Wash	Segment 1	Between Loma Linda and San Bernardino Substation
Santa Ana River	Segment 2	West of the Proposed Project below Vista Substation in Grand Terrace, and one-half mile north of San Bernardino Substation
Reche Canyon	Segment 2	Between Loma Linda and Grand Terrace
Various canyon creek drainages	Segment 3	San Timoteo Badlands
San Timoteo Canyon Wash	Segment 4	Between Beaumont and San Timoteo Badlands
Little San Gorgonio Creek	Segment 4	Beaumont
Noble Creek	Segment 4	Beaumont
Marshall Creek Channel	Segment 4	Beaumont
Highland Springs Channel	Segment 4	Between Banning and Beaumont
Smith Creek Channel	Segment 4	West of Banning
West Pershing Channel	Segment 4	West of Banning
Montgomery Creek	Segment 4	Banning Bench (North of Banning)
San Gorgonio River	Segment 5	East of Banning
Hathaway Creek	Segment 5	East of Banning
Potrero Creek	Segment 5	Between Cabazon and Banning
Millard Canyon	Segment 5	Cabazon
Whitewater River	Segment 6	4 miles west of Devers Substation

Source: Hydrology and Water Resources Evaluation (Ninyo & Moore, June 2013)

4.9.1.2 Surface Water Quality

The State Water Resources Control Board's 2010 Integrated Report (CWA Sections 303(d) List/305(b) Report) contains the most recent listing of impaired water bodies within the State. The only impaired receiving water near the Proposed Project is Reach 4 of the Santa Ana River, which is listed as impaired for pathogens. There are no adopted Total Maximum Daily Loads (TMDLs) for the Proposed Project's receiving waters.

4.9.1.3 Groundwater Resources

The Proposed Project crosses two groundwater basins and seven groundwater subbasins designated by the California DWR. The eastern portion of the Proposed Project is situated in the Coachella Valley Groundwater Basin, and extends across the San

Gorgonio Pass, Indio, and Mission Creek subbasins. The western portion of the Proposed Project is situated in the Upper Santa Ana Valley Groundwater Basin and extends across the Riverside-Arlington, Rialto-Colton, Bunker Hill, and San Timoteo subbasins. Groundwater basins and subbasins that the Proposed Project crosses are described in further detail below.

The Riverside-Arlington Groundwater Subbasin drains a surface area of approximately 58,600 acres (92 square miles). This subbasin is bounded by impermeable rocks of Box Springs Mountains on the southeast, Arlington Mountain on the south, La Sierra Heights and Mount Rubidoux on the northwest, and the Jurupa Mountains on the north. The northeast boundary is formed by the Rialto-Colton Fault, and a portion of the northern boundary is a groundwater divide beneath the unincorporated community of Bloomington.

The Riverside-Arlington Groundwater Subbasin is replenished by infiltration from the Santa Ana River, underflow past the Rialto-Colton fault, intermittent underflow from the Chino Subbasin, return irrigation flow, and deep percolation of precipitation. Storage capacity of the Riverside-Arlington Groundwater Subbasin is approximately 243,000 acre-feet. U.S. Geological Survey (USGS) wells near the portion of the Proposed Project that crosses the Riverside-Arlington Groundwater Subbasin show recent depth-to-water measurements range between approximately 62 feet and 74 feet below ground surface (bgs).

The Rialto-Colton Groundwater Subbasin drains a surface area of approximately 30,100 acres (47 square miles). This subbasin is bounded by the San Gabriel Mountains on the north, the San Jacinto Fault on the east, the Box Spring Mountains on the south, and the Rialto-Colton Fault on the west.

The principal recharge areas of the Rialto-Colton Groundwater Subbasin are Lytle Creek in the northwest, Reche Canyon in the southeast, and the Santa Ana River in the south-central part of the subbasin. Lesser amounts of recharge are provided by percolation of precipitation to the valley floor, underflow from fractured basement rock, underflow through the San Jacinto Fault in younger Santa Ana River deposits, and irrigation and septic returns. Storage capacity of this subbasin is approximately 210,000 acre-feet. USGS wells near the portion of the Proposed Project that crosses the Rialto-Colton Groundwater Subbasin show recent depth-to-water measurements range between approximately 56 feet and 128 feet bgs.

The Bunker Hill Groundwater Subbasin drains a surface area of approximately 89,600 acres (120 square miles). This subbasin is bounded by contact with consolidated rocks of the San Gabriel Mountains, San Bernardino Mountains, and Crafton Hills, and by several faults. The southern boundary is defined by the Banning Fault, the east boundary is the Redlands Fault, the northern boundary is the San Andreas Fault, the northwestern boundary is the Glen Helen Fault, and the southwest boundary is the San Jacinto Fault.

The Bunker Hill Groundwater Subbasin is replenished by infiltration of runoff from the San Gabriel and San Bernardino Mountains. Recharge is provided by the Santa Ana

River, Mill Creek, and Lytle Creek. Lesser amounts of recharge are provided by Cajon Creek, San Timoteo Creek, creeks flowing southward out of the San Bernardino Mountains, deep percolation of water from precipitation and resulting runoff, percolation from delivered water, and water spread in streambeds and spreading grounds. Storage capacity of this subbasin is approximately 5,976,000 acre-feet. USGS wells near the portion of the Proposed Project that crosses the Bunker Hill Groundwater Subbasin show recent depth-to-water measurements range between approximately 102 feet and 201 feet bgs.

The San Timoteo Groundwater Subbasin drains a surface area of approximately 73,100 acres (114 square miles). This subbasin is bounded to the north and northeast by the Banning fault and impermeable rocks of the San Bernardino Mountains, Crafton Hills, and Yucaipa Hills, on the south by the San Jacinto Fault, on the west by the San Jacinto Mountains, and on the east by a topographic drainage divide with the Colorado River Hydrologic Region.

The San Timoteo Groundwater Subbasin is replenished by subsurface inflow and percolation of precipitation, runoff, and imported water. Runoff and imported water are delivered to streambeds and spreading grounds for percolation. Storage capacity of this subbasin is approximately 2,010,000 acre-feet. USGS wells near the portion of the Proposed Project that crosses the San Timoteo Groundwater Subbasin show recent depth-to-water measurements range between approximately 85 feet and 612 feet bgs.

The San Gorgonio Pass Groundwater Subbasin drains a surface area of approximately 38,650 acres (60 square miles). This subbasin is bounded on the north by the San Bernardino Mountains and by semi-permeable rocks, and on the south by the San Jacinto Mountains. A surface drainage divide between the Colorado River and South Coastal Hydrologic Regions bounds the subbasin on the west. The eastern boundary is formed by a bedrock constriction that creates a groundwater cascade into the Indio Subbasin.

Precipitation and stream flow account for a relatively small percentage of the groundwater recharge to the San Gorgonio Pass Groundwater Subbasin. Agricultural return and wastewater effluent also contribute to the recharge of groundwater to the subbasin. Storage capacity of this subbasin is estimated at approximately 2,200,000 acre-feet. USGS wells near the portion of the Proposed Project that crosses the San Gorgonio Pass Groundwater Subbasin show recent depth-to-water measurements range between approximately 47 feet and 513 feet bgs.

The Indio Groundwater Subbasin drains a surface area of approximately 336,000 acres (525 square miles). The Banning Fault and the semi-permeable rocks of the Indio Hills bound the subbasin on the north and northeast. Impermeable rocks of the San Jacinto and Santa Rosa Mountains bound the subbasin on the south. A bedrock constriction separates the Indio Subbasin from the San Gorgonio Pass Subbasin on the northwest. The Salton Sea is the eastern boundary and the subbasin's primary discharge area. A low drainage divide forms a short boundary with the West Salton Sea Groundwater Basin in the southeast.

The Indio Groundwater Subbasin is primarily replenished by surface runoff and subsurface inflow. Other subbasin recharge contributors include the Whitewater River spreading grounds northwest of Palm Springs, which receives Colorado River Aqueduct water and Colorado River water that is conveyed into the subbasin via the Coachella Canal. Storage capacity of this subbasin is approximately 29,800,000 acre-feet. USGS wells near the portion of the Proposed Project that crosses the Indio Groundwater Subbasin show recent depth-to-water measurements range between approximately 363 feet and 408 feet bgs.

The Mission Creek Groundwater Subbasin drains a surface area of approximately 49,000 acres (76 square miles). The subbasin is bounded by the impermeable rocks of the San Bernardino Mountains on the west and the Banning fault on the south. The northern and eastern parts of the subbasin are bounded by the Mission Creek Fault. The Indio Hills bound the subbasin on the southeast.

The Mission Creek Groundwater Subbasin is replenished by runoff from creeks and rivers from the surrounding highland. The subbasin is also recharged from subsurface leakage that occurs across the Mission Creek Fault from the neighboring Desert Hot Springs Groundwater Subbasin. Storage capacity of this subbasin is approximately 2,600,000 acre-feet. There is one USGS well near the portion of the Proposed Project that crosses the Mission Creek Groundwater Subbasin. Recent depth-to-water at this well recorded a groundwater measurement of approximately 318 feet bgs.

4.9.1.4 Groundwater Quality

As summarized in Table 4.9-2, Groundwater Quality, groundwater in the Project Study Area contains bicarbonates of calcium, sodium, and magnesium with Total Dissolved Solids (TDS) ranging from approximately 100 to 900 mg/L. Instances of elevated TDS generally could be caused by the elemental chemistry of the soil matrix in the subbasin. In some instances, elevated TDS is suspected from man-made sources such as agricultural uses. In the case of the Bunker Hill Subbasin, trichloroethylene (TCE) and tetrachloroethylene/perchloroethylene (PCE) impacts are suspected from former releases from industrial sources. Dibromochloropropane (DBCP) impact is suspected from long-term application of this chemical, which was primarily used in citrus-growing orchards. The San Timoteo Subbasin nitrate impairment is suspected to be from agriculture and perhaps dairies (from cows). This is also suspected to be a cause for salinity; however, a contributing source could be the proximity to an arid environment. The Indio Subbasin nitrate impairment is likely from agricultural sources. The Indio Subbasin fluoride impairment is likely from natural sources as groundwater passes through relatively fluoride-rich bedrock.

Table 4.9-2: Groundwater Quality

Groundwater Basin	TDS (mg/L)	Primary Character	Impairments
Upper Santa Ana Valley Groundwater Basin			
Riverside-Arlington Subbasin	210-889	calcium-sodium bicarbonate	NA

Table 4.9-2: Groundwater Quality

Groundwater Basin	TDS (mg/L)	Primary Character	Impairments
Rialto-Colton Subbasin	163–634		NA
Bunker Hill Subbasin	150–550	calcium-bicarbonate	TCE, PCE, and DBCP
San Timoteo Subbasin	170–340	sodium bicarbonate	high nitrate and salinity
Coachella Valley Groundwater Basin			
San Gorgonio Subbasin	106–205	calcium-sodium bicarbonate	NA
Indio Subbasin	300	calcium bicarbonate	nitrate and fluoride
Mission Creek Subbasin	<500	calcium-magnesium bicarbonate and sodium chloride-sulfate	NA

Source: Hydrology and Water Resources Evaluation (Ninyo & Moore, June 2013)

TDS = Total Dissolved Solids mg/L = milligrams per liter

NA= No information available in the California Groundwater, Bulletin 118 (DWR, 2003)

4.9.1.5 Floodplains

A floodplain is a relatively flat geographical area (e.g., a valley floor) adjacent to and formed by alluvial streams and rivers that are occasionally subject to inundation. A 100-year floodplain is an area of land that has a one-percent chance of inundation every year, or once every 100 years. The Federal Emergency Management Agency (FEMA) has estimated and mapped 100-year floodplains in Riverside and San Bernardino counties. FEMA has categorized 100-year floodplains as potential Flood Hazard Areas, and provided guidelines for construction activities within these areas to comply with floodplain management ordinances.

As shown in Figures 4.9-1, Watersheds and Flood Zones and 4.9-2, Surface Hydrology, potential FEMA 100-year floodplains that cross, or are near, the Proposed Project have been mapped along the San Timoteo Wash, Santa Ana River, Reche Canyon, Potrero Creek, Smith Creek, San Gorgonio River Wash, Millard Canyon, and the Whitewater River Canyon. Table 4.9-3, FEMA 100-Year Floodplains that Cross or are Near the Proposed Project, summarizes the 100-year floodplains by Proposed Project segment.

Table 4.9-3: FEMA 100-Year Floodplains that Cross or are Near the Proposed Project

Surface Water Feature	Location
San Timoteo Wash	Segment 1
Santa Ana River	Segment 2
Reche Canyon	Segment 2
Potrero Creek	Segment 4
Smith Creek	Segment 4
San Gorgonio River Wash	Segment 5
Millard Canyon	Segment 5
Whitewater River	Segment 6

Source: Hydrology and Water Resources Environmental Setting Evaluation (Ninyo & Moore, June 2013)

4.9.1.6 Dam Inundation

Based on the Safety Element of the County of Riverside 2003 General Plan, and the 2009 Geologic Hazard Overlays of the San Bernardino County Land Use Plan, the Proposed Project does not cross areas subject to dam inundation.

4.9.2 Regulatory Setting

4.9.2.1 Federal Regulatory Setting

Federal Clean Water Act

The Federal Clean Water Act (CWA), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States 33 U.S.C. § 1251 et seq. The CWA requires States to set standards to protect, maintain, and restore water quality through the regulation of point source and certain nonpoint source discharges to surface water.

Section 402. CWA Section 402, National Pollutant Discharge Elimination System (NPDES) establishes the NPDES permit program to regulate discharges of pollutants into waters of the United States. Through the NPDES program, the State Water Resources Control Board's (SWRCB) California General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (California CGP) (Order #2009-0009-DWQ, NPDES No. CAS000002) requires projects that disturb one or more acres to obtain permit coverage.

Reservation lands are subject to the Environmental Protection Agency's (EPA's) General Permit from Discharges from Construction Activities (Federal CGP) which requires project that disturb one or more acres to obtain permit coverage.

Section 404. CWA Section 404, Nationwide or Individual Permit, authorizes the U.S. Army Corps of Engineers (USACE) to regulate the discharge of dredged or fill material (i.e., excavation or deposition of material) to the waters of the United States and adjacent wetlands (wetlands and non-wetland waters of the United States are considered to be jurisdictional). The USACE issues individual site-specific or general (Nationwide) permits for such discharges.

For the purposes of this PEA, LSA conducted a drainage assessment (discussed in detail in Section 4.4, Biological Resources) to evaluate potential jurisdiction. Drainages that appeared to connect to a traditional navigable water (TNW) were considered to potentially be subject to USACE jurisdiction. In order to be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology.

Section 401. CWA Section 401, Water Quality Certification, requires that any activity requiring Federal action that results in a discharge into a State water body must be

certified by the applicable State agency to ensure that the proposed activity does not violate State and/or Federal water quality standards. Dredge and fill activities in wetlands and waterways that affect waters of the U.S. require a Federal Section 404 permit from the USACE. Before a Section 404 permit can be issued, a Section 401 certification must first be obtained from the RWQCB.

Within California, CWA Section 401 is regulated by the SWRCB and the nine RWQCBs through the issuance of Water Quality Certifications. The Proposed Project is located within the boundaries of the Santa Ana and Colorado RWQCBs. When projects span multiple RWQCB boundaries, the SWRCB typically assumes oversight and permitting responsibility.

Section 303. The CWA requires states to adopt water quality standards for water bodies and have those standards approved by the EPA. Water quality standards consist of designated beneficial uses for a particular water body (e.g., wildlife habitat, agricultural supply, and/or fishing), along with water quality criteria necessary to support those uses. Water quality criteria are set concentrations or levels of constituents—such as lead, suspended sediment, and fecal coliform bacteria—or narrative statements that represent the quality of water that support a particular use. When designated beneficial uses of a particular water body are being compromised by water quality, Section 303(d) of the CWA requires identifying and listing that water body as impaired. The SWRCB’s 2010 Integrated Report (CWA Sections 303(d) List/305(b) Report) contains the most recent listing of impaired water bodies within the State.

Once a water body has been deemed impaired, a TMDL must be developed for each impairing water quality constituent. A TMDL is an estimate of the total load of pollutants from point, nonpoint, and natural sources that a water body may receive without exceeding applicable water quality standards (often with a “factor of safety” included, which limits the total load of pollutants to a level well below that which could cause the standard to be exceeded). Once established, the TMDL is allocated among current and future dischargers into the water body.

4.9.2.2 State Regulatory Setting

California Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act of 1967 requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect State waters (Cal. Water Code § 13000 et seq.). These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The RWQCBs have the responsibility for granting NPDES permits for storm water runoff from construction sites. Under Porter-Cologne, the RWQCB also regulates the discharge of waste to any waters of the State by issuing waste discharge requirements (WDRs). WDRs may be required for any discharges to non-Federal waters not subject to regulation under Sections 404/401 of the CWA.

California Fish & Game Code 1602, Lake and Streambed Alteration Agreement

California Fish and Game Code Section 1602 protects the natural flow, bed, channel, and bank of any river, stream, or lake designated by the California Department of Fish and Wildlife (CDFW) in which there is, at any time, any existing fish or wildlife resources, or benefit for the resources. Section 1602 requires notification of any proposed activities that would:

- Divert, obstruct, or change a streambed;
- Use material from the streambed; and/or
- Result in the disposal, or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can flow into a stream.

Activities deemed to potentially substantially adversely affect an existing fish, wildlife, or water resource shall require a Lake and Streambed Alteration Agreement between the entity and the CDFW.

Construction General Storm Water Permit

The California Construction General Permit (California CGP) for Storm Water Discharges Associated with Construction and Land Disturbance Activities authorizes discharges of storm water associated with construction activity as long as the discharges comply with all requirements, provisions, limitations, and prohibitions in the permit. Registration Documents (PRDs) must be electronically filed for all new projects using the Storm Water Multiple Applications and Report Tracking System (SMARTs), and must include: a Notice of Intent, Risk Assessment, Site Map, and a Storm Water Pollution Prevention Plan (SWPPP).

All traditional and linear underground/overhead projects (LUPs) construction projects that disturb one acre or more must apply for coverage under the California CGP. The California CGP follows a risk-based permitting approach. Each project is evaluated for sediment discharge risk and receiving water risk. These factors combine to determine the Project Risk Level Permit. Whenever a project continues beyond the planned end date, the risk level must be reviewed and the PRDs revised, including updating the SWPPP and Best Management Practices (BMPs) if the risk level has changed.

LUPs include any cable, line, or wire for the transmission of electrical energy, any cable, line, or wire communications, and associated ancillary facilities including structures, poles, and substations.

LUPs may be constructed within both developed and undeveloped locations and portions of LUPs, and may be broken into logical permit sections based on the contractor and duration of construction (i.e., project phase). For projects that are broken into separate sections, a description of how each section relates to the overall project and the definition of the boundaries between sections shall be clearly stated. Where construction activities traverse or enter into different RWQCB jurisdictions, the project shall obtain permit

coverage for each RWQCB area involved prior to the commencement of construction activities (SWRCB 2009).

4.9.2.3 Local Regulatory Setting

The California Public Utilities Commission (CPUC) has jurisdiction over the siting and design of the Proposed Project because the CPUC regulates and authorizes the construction of investor-owned public utility (IOU) facilities. Although such projects are exempt from local land use and zoning regulations and permitting, General Order (GO) No. 131-D, Section III.C requires “the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any nondiscretionary local permits.”. As part of its environmental review process, SCE considered local and State land use plans and policies, and local land use priorities and concerns. Table 4.9-4, Local Land Use Documents Applicable to Hydrology and Water Quality, summarizes key policies included in local land use documents applicable to hydrology and water quality resources.

Table 4.9-4: Local Land Use Documents Applicable to Hydrology and Water Quality

Document	Plans, Policies, Programs
City of Banning General Plan, Biological Resources Element	Policy 4: Drainage channels, utility corridors and pipeline easements shall be preserved in natural open space to the greatest extent possible.
City of Banning General Plan, Emergency Preparedness Element	Program 6.A: In order to assure the maximum possible protection from environmental and manmade hazards, including earthquakes and flooding, the City shall consider their vulnerability to natural and manmade disasters and emergencies when reviewing proposals for critical and essential facilities, as well as sensitive land uses.
City of Banning General Plan, Land Use Element	Program 3.A: The City shall investigate and implement actions and regulations that facilitate hillside development that is compatible with the natural characteristics of the terrain while protecting the significant view sheds, and natural hillside features such as topography, natural drainage, vegetation, wildlife habitats, movement corridors etc.
City of Beaumont General Plan, Resource Management Element	Policy 4. The City of Beaumont will promote the maintenance of water quality in the City.
City of Calimesa General Plan, Land Use Element	Policy 5.3: Graded areas shall be revegetated with native plants compatible to the area to prevent erosion. Policy 5.4: Development shall be prohibited in areas containing sensitive biological resources and habitats, cultural resources, groundwater recharge areas, prominent ridgelines, unless adequate protections and/or preservation is provided.
City of Calimesa General Plan, Safety Element	Goal 3: Minimize injury, loss of life, property damage, and economic and social disruption caused by flood and inundation hazards.
City of Colton General Plan, Open Space and Conservation Element	Principle 1: Preserve and protect hillside and environmentally sensitive areas designated for growth through the use of strict hillside development standards. Principle 6: Restrict development in canyons and hillsides and control the plan of development to prevent obstruction of natural runoff or water courses and to prevent unwarranted scarring of hillsides.

Table 4.9-4: Local Land Use Documents Applicable to Hydrology and Water Quality

Document	Plans, Policies, Programs
City of Grand Terrace General Plan, Open Space and Conservation Element	<p>Goal 4.8: Achieve regional water quality objectives and protect the beneficial uses of the regions surface and groundwater.</p> <p>Policy 4.8.2 Comply with the requirements of the National Pollutant Discharge Elimination System (NPDES).</p>
City of Grand Terrace General Plan, Public Health and Safety Element	<p>Goal 5.3: Reduce the risk to life and property in areas designated as flood hazard areas.</p> <p>Policy 5.3.1: All development proposed within a designated 100-year floodplain shall be reviewed to assure that all structures designated for human habitation are adequately protected from flood hazards.</p> <p>Policy 5.3.4: The City shall require all development projects to comply with the National Pollutant Discharge Elimination System (NPDES) and implement appropriate Best Management Practices.</p>
City of Loma Linda General Plan, Conservation and Open Space Element	<p>Guiding Policy for Avoidance of Environmentally Sensitive Areas 9.2.10.3: New development shall be sited so as to maximize the permanent preservation of large blocks of unbroken open space and to minimize the loss of habitat, wildlife, and watershed resources.</p>
City of Loma Linda General Plan, Public Health and Safety Element – Flooding Hazards	<p>Guiding Policy 10.2.3: Protect the community from risks to lives and property created by flooding and stormwater runoff.</p> <p>Implementing Policy (e): Cooperate with the State and Federal agencies to encourage that streams and creeks in the south hills area be left in their natural state in order to preserve their value as percolation and recharge areas, natural habitat, scenic resources, and recreation corridors, if technically and financially feasible. If not, then the loss or modification of a creek stream should be appropriately mitigated.</p>
City of Loma Linda General Plan, Public Health and Safety Element – Slope Failure Hazards	<p>Implementing Policies:</p> <ul style="list-style-type: none"> a. Limit cut and fill slopes to 3:1 (33% slope) throughout the City to maintain slope stability unless an engineering geologist can establish to the City’s satisfaction that a steeper slope would not pose undue risk to people and property. b. Blend cut-and fill slopes with existing contours to avoid high cut slopes and steep embankments which could lead to silting of lower slopes and soil erosion. c. Require geologic and soils reports as part of the development review process and/or building permit process for development in the affected areas to minimize slope failure. d. Require erosion-control measures in areas of steep slopes or areas with high erosion problems on all grading plans to reduce soil erosion from wind, grading and construction operations, and stormwater runoff.
City of Palm Springs General Plan, Recreation, Open Space, and Conservation Element	<p>Goal RC9: Ensure an adequate supply of quality water is provided to the City.</p>
City of Palm Springs General Plan, Safety Element	<p>Goal SA3: Reduce, to the greatest extent possible, the risk to life, property and essential facilities from flooding and other hydrological hazards within the City.</p>

Table 4.9-4: Local Land Use Documents Applicable to Hydrology and Water Quality

Document	Plans, Policies, Programs
City of Redlands General Plan, Health and Safety Element	Guiding Policy 8.40a: Protect lives and property and ensure that structures proposed for sites located on flood plains subject to the 100-year flood are provided adequate protection from floods.
City of San Bernardino General Plan, Land Use Element	Policy 2.2.3: Sensitively integrate regionally beneficial land uses such as transportation corridors, flood control systems, utility corridors, and recreational corridors into the community. Policy 2.2.4: Hillside development and development adjacent to natural areas shall be designed and landscaped to preserve natural features and habitat and protect structures from the threats from natural disasters, such as wildfires and floods.
City of San Bernardino General Plan, Safety Element	Goal 10.6 Protect the lives and properties of residents and visitors of the City from flood hazards. <i>Policies:</i> 10.6.1 Maintain flood control systems and restrict development to minimize hazards due to flooding. 10.6.3 Keep natural drainage courses free of obstructions. 10.6.4 Evaluate all development proposals located in areas that are subject to flooding to minimize the exposure of life and property to potential flood risks. 10.6.5 Prohibit land use development and/or the construction of any structure intended for human occupancy within the 100-year flood plain as mapped by the Federal Emergency Management Agency (FEMA) unless adequate mitigation is provided against flood hazards.
City of San Bernardino General Plan, Land Use Utilities Element	Policy 9.4.10: Ensure compliance with the Federal Clean Water Act requirements for National Pollutant Discharge Elimination System (NPDES) permits, including requiring the development of Water Quality Management Plans, Erosion and Sediment Control Plans, and Storm Water Pollution Prevention Plans for all qualifying public and private development and significant redevelopment in the City.
City of Yucaipa General Plan, Infrastructure and Public Facilities Element	Goal IPF-7: Cooperate and coordinate with all governmental agencies, including the RWQCB, to apply measures which will prevent surface and groundwater pollution and establish uniform standards for wastewater discharge.
City of Yucaipa General Plan, Open Space and Conservation Element	Goal OS-2: Manage scarce natural resources for preservation. Scarce resources include sensitive biological resources, cultural resources, air quality, groundwater supply and quality and open space.
City of Yucaipa General Plan, Urban Design Element	Goal UD-4: Promote design guidelines which are sensitive to the environmental features of the City, respecting major ridgelines, natural drainage and “bench” areas, steep hillsides and oak woodlands.
County of Riverside General Plan, Land Use Element	Policy LU 8.2: Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the General Plan and Federal and State regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act. (AI 3, 10)
County of Riverside General Plan, Open Space Element	Policy OS 3.3: Minimize pollutant discharge into storm drainage systems and natural drainages and aquifers. Policy OS 5.5: Require new private or public developments to preserve and enhance existing native riparian habitat and prevent obstruction of natural

Table 4.9-4: Local Land Use Documents Applicable to Hydrology and Water Quality

Document	Plans, Policies, Programs
	<p>watercourses.</p> <p>Policy OS 5.6: Identify and conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critical to the feeding, hibernation, or nesting of wildlife species associated with these wetland and riparian areas.</p> <p>Policy OS 6.1: During the development review process, ensure compliance with the Clean Water Act’s Section 404 in terms of wetlands mitigation policies and policies concerning fill material in jurisdictional wetlands.</p> <p>Policy OS 6.2: Preserve buffer zones around wetlands where feasible.</p>
<p>County of Riverside General Plan, Safety Element</p>	<p>Policy S 4.1: For new construction and proposals for substantial improvements to residential and nonresidential development within 100-year floodplains as mapped by FEMA or as determined by site specific hydrologic studies for areas not mapped by FEMA, the County shall apply a minimum level of acceptable risk; and disapprove projects that cannot mitigate the hazard to the satisfaction of the Building Official or other responsible agency. (AI 25)</p> <p>Policy S 4.5: Prohibit substantial modification to water courses, unless modification does not increase erosion or adjacent sedimentation, or increase water velocities, so as to be detrimental to adjacent property, nor adversely affect adjacent wetlands or riparian habitat. (AI 60, 61)</p> <p>Policy S 4.9: Within the floodway fringe of a floodplain as mapped by FEMA or as determined by site specific hydrologic studies for areas not mapped by FEMA, require development to be capable of withstanding flooding and to minimize use of fill. However, some development may be compatible within flood plains and floodways, as may some other land uses. In such cases, flood proofing would not be required. Compatible uses shall not, however, obstruct flows or adversely affect upstream or downstream properties with increased velocities, erosion backwater effects, or concentrations of flows. (AI 60)</p>
<p>County of San Bernardino General Plan, Conservation Element – Water</p>	<p>Goal CO 5: The County will protect and preserve water resources for the maintenance, enhancement, and restoration of environmental resources.</p> <p>Policy CO 5.1: Because the San Bernardino County Flood Control District is responsible for debris basin construction and maintenance at the base of the mountains, development in these areas will be coordinated with that agency.</p> <p>Policy CO 5.4: Drainage courses will be kept in their natural condition to the greatest extent feasible to retain habitat, allow some recharge of groundwater basins and resultant savings. The feasibility of retaining features of existing drainage courses will be determined by evaluating the engineering feasibility and overall costs of the improvements to the drainage courses balanced with the extent of the retention of existing habitat and recharge potential.</p>

Morongo Reservation

The Proposed Project will traverse approximately 8 miles of the tribal trust lands of the Morongo Indian Reservation east of Banning, California. Except for approximately two miles of new corridor between Malki Road and the western boundary of the Reservation, the Proposed Project will utilize the transmission corridor that has been used by existing SCE 220 kV transmission lines starting in 1945, and as subsequently expanded. Matters

concerning the use of the Reservation's trust lands are subject to approval by the Morongo Band's General Membership, which consists of all enrolled adult voting members. With limited exceptions, the Morongo Band does not release its internal ordinances and other laws to the public.

The Morongo Band's General Membership has voted to approve the Bureau of Indian Affairs' grants to SCE of the rights of way and easements necessary for SCE to continue operating its existing 220 kV facilities on the Morongo Reservation and to replace and upgrade those facilities with the WOD Project. The Morongo Band's approval of these grants of rights of way and easements includes relocating approximately two miles of the corridor west of Malki Road into a new corridor depicted on Figure 2-3, Proposed and Alternative Transmission Line Routes, as either the Proposed Project (Alternative 1) or the Alternative Project (1X). The existing corridor, plus either Alternative 1 or 1X, thus would be consistent with all applicable tribal laws, and are the only corridors approved by the Morongo Band for the continued operation and eventual replacement of SCE's 220 kV facilities on and across the trust lands of the Morongo Indian Reservation.

4.9.2.4 Floodplain Designations

The Federal Emergency Management Agency (FEMA) has prepared Flood Insurance Rate Maps (FIRMs) that delineate flood zones based on estimated flood risk. These zones are located within a 100-year floodplain, or an area of 1 percent annual chance of flood hazard in a community. Zone A is the FEMA designation for areas of 100-year flood where base flood elevations and flood hazard factors have not been determined. Zones A1–A30, AE, AH, and AO are the designations for areas of the 100-year flood in which base flood elevations and flood hazard factors have been determined. Zones B and X (shaded) are the designations for areas between the limits of the 100-year and 500-year floodplains. Zones C and X (unshaded) are the designations for areas determined to be outside the 500-year floodplain. Zone D is the designation for areas with possible but undetermined flood hazards. Zone AR constitutes areas with a temporary increased flood risk due to the building or restoration of a flood control system. Zone A99 is the designation for areas within a 100-year floodplain that will be protected by a flood control system under construction. Zones V, VE, and V1–V30 are coastal flood zones.

The FEMA FIRMs also designate floodway areas, which are defined as the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 100-year storm can be carried without substantial increases in flood heights.

4.9.3 Significance Criteria

4.9.3.1 CEQA Significance Criteria

The significance criteria for assessing the impacts to hydrology and water quality come from the CEQA Environmental Checklist. According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Violate any water quality standards or waste discharge requirements.

- 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.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or a substantial increase in the rate or amount of surface runoff in a manner which would result in flooding on- or off site.
- Create or contribute to runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year floodplain, as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- 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.
- Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.

4.9.3.2 NEPA Significance Criteria

Unlike CEQA, NEPA does not have specific significance criteria. However, NEPA regulations contain guidance regarding significance analysis. Specifically, consideration of “significance” involves an analysis of both context and intensity (Title 40 Code of Federal Regulations 1508.27).

4.9.4 Impact Analysis

4.9.4.1 CEQA Impact Assessment

Would the project violate any water quality standards or waste discharge requirements?

The following discussion addresses all Proposed Project components, including substation modifications, 220 kV transmission lines, 66 kV subtransmission lines, 12 kV distribution lines, telecommunication facilities, and the establishment of staging yards.

Construction Impacts

Potential sources of polluted runoff during construction include sediment, trash, petroleum products, concrete waste, sanitary waste, and chemicals. Each of these

pollutants on its own or in combination with other pollutants may have a detrimental effect on water quality if discharged to receiving waters. Ground-disturbing activities include clearing and grading, installation of overhead linear facilities (i.e., conductors, structures, cables, wires, connectors, switching, regulating and transforming equipment, and associated facilities), and installation of drainage improvements (such as wet crossings, water bars, and culverts). Disturbed soils may accelerate erosion and increase sediment in storm water runoff to receiving waters, causing increased turbidity and sedimentation. The potential for increased soil erosion and sedimentation would be greatest in areas of steep terrain. Erosion and sedimentation would be minimized through the use of site-specific BMPs.

In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and may have the potential to be transported via storm runoff into receiving waters.

The Proposed Project disturbs greater than 1 acre and is therefore subject to the requirements of the SWRCB California CGP. Reservation lands are subject to the Federal CGP, which is similar to the California CGP.

Under the California and Federal CGPs, the Proposed Project would have SWPPPs that detail site-specific BMPs would be utilized during construction activities. Construction BMPs would include, but not be limited to, erosion control, sediment control, and non-storm water and material management BMPs.

Hazardous materials would be transported, used, and disposed of in accordance with applicable rules and regulations designed to protect the environment. The Proposed Project would also be managed in accordance with the Worker Environmental Awareness Training (WEAP), as specified in Section 3.9, Worker Environmental Awareness Training of the Project Description, which is a worker awareness and educational training program to ensure that all employees working at the site comply with the SWPPPs, site-specific BMPs, and notification requirements in case of an accidental spill.

Potential water quality impacts during construction within jurisdictional drainages would be minimized through compliance with the conditions set forth in the Federal or State permits (California Fish & Game Code Section 1602 Lake and Streambed Alteration Agreement, CWA Section 401 Water Quality Certification, and CWA Section 404 Nationwide or Individual Permit) and coordination with the regulatory agencies. CWA Section 401 requires that any person applying for a Federal permit (including CWA Section 404 Nationwide or Individual Permit) or license, which may result in a discharge of pollutants into waters of the United States obtain a State water quality certification that the activity complies with all applicable water quality standards, limitations and restrictions.

Groundwater in the Project Study Area ranges from 47 to 612 feet bgs. Approximate foundation hole depths would be 15 to 50 feet for LSTs, 30 to 60 feet for TSPs, and 8 to 12 feet for the wood poles with guys. For the majority of the Proposed Project, reported groundwater levels are deeper than the proposed foundation construction depths and as

such, groundwater dewatering during construction is not anticipated. Areas of the Proposed Project where groundwater is potentially shallower than the proposed foundation depths have been reported in the San Geronio Pass and near El Casco Substation, and groundwater dewatering during construction may be necessary. If groundwater is encountered, dewatering would be made in compliance with the Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (SWRCB's Water Quality Order No. 2003-0003-DWQ). Water quality testing would be performed to characterize the constituents of the water and, if under the specific Basin Plan Thresholds, dewatered groundwater could be utilized for dust control. If the Basin Plan Thresholds cannot be met, the groundwater would be shipped to a licensed off-site facility for treatment and disposal.

The only impaired receiving water near the Proposed Project is Reach 4 of the Santa Ana River, which is listed as impaired for pathogens. There are no adopted TMDLs for the Proposed Project's receiving waters. However, pathogens are not a potential pollutant in runoff from the Proposed Project; therefore, construction of the Proposed Project does not have the potential to contribute to an existing impairment.

Because the Proposed Project would comply with the requirements of (1) California and Federal CGPs, including development of site-appropriate SWPPPs and implementation of BMPs to control erosion and sedimentation during construction, (2) SWRCB Water Quality Order No. 2003-0003-DWQ, and (3) compliance with all terms and conditions identified in permits and authorization issued from State and Federal agencies, construction impacts related to violation of water quality standards or waste discharge requirements would be less than significant.

Operation Impacts

The Proposed Project would involve the creation of new permanent graded areas for structure sites and access roads. Substation modifications would create relatively small new impervious surfaces with the potential to have a minor increase in the rate of storm water runoff and minor contribution of additional sources of polluted runoff. Maintenance of access roads and structure pads (e.g., graveling, vegetation clearance) could also contribute additional sources of pollutants to storm water runoff.

The Statewide Construction General Permit states that because of the nature of their construction, LUPs are not subject to post-construction requirements to return project sites to pre-construction conditions. Any non-linear portion of the project permitted under the traditional, non-LUP Construction General Permit will require a water balance calculation to be conducted and submitted with the CGP coverage. If the project-related volume increase is greater than the pre-project runoff volume, there may be a need for non-structural BMPs and a 5-year maintenance plan.

Routine access road maintenance would be conducted on an as-needed basis, including cleaning ditches, moving or establishing berms, clearing and making functional drain inlets and culverts, culvert repair, clearing and establishing water bars, and cleaning and repairing over-side drains. Access road maintenance also would include the repair,

replacement, and installation of storm water diversion devices on an as-needed basis. These access road and drainage improvement maintenance activities would help to minimize erosion and the potential for sedimentation of waterways. Ongoing operation and maintenance (O&M) of the proposed 220 kV transmission lines, 66 kV subtransmission lines, 12 kV distribution lines, and associated components would not result in the discharge of effluent, with the exception of storm water. Most regular O&M activities of overhead facilities are performed from existing access roads, and therefore they would not result in additional surface disturbance. Other O&M activities, including insulator washing, brush and weed control, and repairing conductors would be conducted according to the explanation provided in Section 3.12, Project Operation and Maintenance, of the Project Description.

A discussion of impacts associated with transport and storage of hazardous materials during O&M of the Proposed Project is presented in Section 4.8, Hazards and Hazardous Materials. As discussed in Section 4.8, Hazards and Hazardous Materials, to minimize potential impacts from spills of mineral oil, which is used during operation of the substations, the existing design of the substations provides containment and/or diversionary structures or equipment to prevent discharge of an oil spill.

The only impaired receiving water near the Proposed Project is Reach 4 of the Santa Ana River, which is listed as impaired for pathogens. There are no adopted TMDLs for the Proposed Project's receiving waters. However, pathogens are not a potential pollutant in runoff from the Proposed Project; therefore, operation of the Proposed Project does not have the potential to contribute to an existing impairment.

The change in impervious surfaces and maintenance activities would not be substantially different than the existing condition. Therefore, impacts related to violation of water quality standards or waste discharge requirements would be less than significant.

Would the project 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?

The following discussion addresses all Proposed Project components, including substation modifications, 220 kV transmission lines, 66 kV subtransmission lines, 12 kV distribution lines, telecommunication facilities, and the establishment of staging yards.

Construction Impacts

Construction activities associated with the Proposed Project would not interfere with groundwater recharge or otherwise lower the levels of local groundwater tables.

Within the Project Study Area, the sources of water are from groundwater, recycled water, and imported water either through the State Water Project or from the Colorado River. SCE is anticipating to contract with purveyors that have water from the State Water Project or from the Colorado River for dust control and soil compaction. If a combination of surface water and groundwater is needed, then SCE would contract with

purveyors that have excess groundwater for sale in compliance with the respective Groundwater Basin Plan.

The Proposed Project does not involve substantial grading operations or alterations to the existing terrain, such as filling of canyons or watercourses or construction of large cut/fill slopes that would substantially alter existing drainage patterns that would affect groundwater supplies. Construction of transmission lines would add negligible amounts of impervious surfaces. Addition of impervious surface area at localized sites, such as substations, would be designed to maintain the existing drainage patterns to the extent feasible. For the majority of the Proposed Project, reported groundwater levels are deeper than the proposed foundation construction depths and groundwater dewatering during construction is not anticipated. The proposed groundwater in the Project Study Area ranges from 47.0 to 612.3 feet bgs. Approximate foundation hole depths would be 15 to 50 feet for the lattice steel towers (LSTs), 30 to 60 feet for the tubular steel poles (TSPs), and 8 to 12 feet for the wood poles with guys. Areas where groundwater is potentially shallower than the proposed foundation depths have been reported in the San Gorgonio Pass and near El Casco Substation, and groundwater dewatering during construction may be necessary. If performed during construction activities, dewatering of foundation excavations would be localized, of short duration, and would not substantially deplete groundwater supplies. Therefore, construction impacts related to depletion of groundwater supplies or interference with groundwater recharge would be less than significant.

Operation Impacts

Operation and maintenance of the Proposed Project would not require groundwater extraction or other increases in groundwater usage. In addition, grading or other alterations to the existing terrain would be minor and would not substantially alter existing drainage patterns that would affect groundwater supplies. Most regular O&M activities of overhead facilities would be performed from existing access roads and, therefore, would not substantially alter drainage patterns that would affect recharge of groundwater supplies. The Proposed Project does not involve substantial covering of ground surfaces with impermeable surfaces, and would not substantially affect changes in infiltration of surface water into the ground. Therefore, operation impacts related to depletion of groundwater supplies or interference with groundwater recharge would be less than significant.

Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

The following discussion addresses all Proposed Project components, including substation modifications, 220 kV transmission lines, 66 kV subtransmission lines, 12 kV distribution lines, telecommunication facilities, and the establishment of staging yards.

Construction Impacts

Construction of the Proposed Project would involve ground-disturbing activities, including removal of existing structures, clearing and grading for structure installation work areas, access road construction, and installation of drainage improvements (such as wet crossings, water bars, and culverts). While the Proposed Project does not involve substantial grading operations or alterations to the existing terrain, such as filling of canyons or watercourses or construction of large cut/fill slopes, that would not substantially alter existing drainage patterns, ground-disturbing activities could potentially cause minor alterations in drainage patterns within the work areas and may result in soil erosion leading to increased sedimentation. Installation of drainage improvements would result in alterations to onsite drainages; however, the alterations would be minor and would be designed to maintain the existing flow patterns as feasible.

As discussed previously, coverage under the California and Federal CGPs would have to be obtained for the Proposed Project. Under the California and Federal CGPs, the Proposed Project would be required to prepare SWPPPs and implement site-specific BMPs detailed in the SWPPPs. Construction BMPs would include, but not be limited to, erosion control and sediment control BMPs designed to minimize erosion and retain sediment on site and reduce the amount of storm water flow from areas of active construction. Potential impacts to jurisdictional drainages would be minimized through compliance with the conditions set forth in the Federal or State permits (California Fish & Game Code Section 1602 Lake and Streambed Alteration Agreement, CWA Section 401 Water Quality Certification, and CWA Section 404 Nationwide or Individual Permit) and coordination with the regulatory agencies. The Lake and Streambed Alteration Program gives CDFW oversight and approval of public or private projects that would divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake. CDFW regional offices generally coordinate with the Regional Water Boards and local agencies regarding water quality standards policy and permitting processes at the regional and local level. CWA Section 401 requires that any person applying for a Federal permit (including CWA Section 404 Nationwide or Individual Permit) or license, which may result in a discharge of pollutants into waters of the United States obtain a State water quality certification that the activity complies with all applicable water quality standards, limitations and restrictions. Because the Proposed Project would (1) comply with the requirements of the California and Federal CGPs, (2) incorporate site-specific BMPs to minimize erosion and sedimentation, and (3) coordinate with regulatory agencies, impacts related to on- or off-site erosion or sedimentation as a result of alteration of existing drainage patterns would be less than significant.

Operation Impacts

The Proposed Project would involve the creation of new permanent graded areas for structure sites and access roads. Substation modifications would create relatively small new impermeable surfaces with the potential to have a minor increase in the rate of storm water runoff. However, surface gradients and drainage features of transmission structure site, staging yards, access roads, and substations would be designed to minimize changes in storm water runoff and reduce the potential for erosion. Access road and drainage

improvement maintenance activities would occur on an as-needed basis and would help to minimize erosion and the potential for sedimentation of waterways. Most regular O&M activities of overhead facilities are performed from existing access roads, and therefore would not result in additional surface disturbance or substantially alter drainage patterns. Operation and maintenance activities would be conducted according to the explanation provided in Section 3.12, Project Operation and Maintenance.

The change in impervious surfaces and storm water runoff would not be substantially different than the existing condition and O&M activities would help minimize erosion and sedimentation. Therefore, impacts related to on- or off-site erosion or siltation as a result of alteration of existing drainage patterns would be less than significant.

Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or a substantial increase in the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

The following discussion addresses all Proposed Project components, including substation modifications, 220 kV transmission lines, 66 kV subtransmission lines, 12 kV distribution lines, telecommunication facilities, and the establishment of staging yards.

Construction Impacts

Construction of the Proposed Project would involve ground-disturbing activities, including removal of existing improvements, clearing and grading for structure installation work areas, access road construction, and installation of drainage improvements (such as wet crossings, water bars, and culverts). While the Proposed Project does not involve substantial grading operations or alterations to the existing terrain, such as filling of canyons or watercourses or construction of large cut/fill slopes, that would not substantially alter existing drainage patterns, ground-disturbing activities could potentially cause minor alterations in drainage patterns within the work areas. Installation of drainage improvements (such as wet crossings, water bars, and culverts) would result in alterations to on-site drainages; however, the alterations would be minor and would be designed to maintain the existing flow patterns. In addition, grading and construction activities would compact soil, and construction of structures would increase the impervious area, which can increase runoff during construction. However, the change in impervious surfaces and storm water runoff would not be substantially different than the existing condition and would not likely be substantially altered by construction activities. Construction of transmission lines would add negligible amounts of impervious surfaces. Addition of impervious surface area at localized sites, such as substations, would be designed to maintain the existing drainage patterns to the extent feasible.

As discussed previously, coverage under the California and Federal CGPs would have to be obtained for the Proposed Project. Under the California and Federal CGPs, the Proposed Project would be required to prepare SWPPPs and implement site-specific BMPs detailed in the SWPPPs, including BMPs designed to address impacts related to increased runoff and reduce the amount of storm water flow from areas of active

construction. Potential impacts to jurisdictional drainages, as a result of altering existing drainage patterns would be minimized through compliance with the conditions set forth in the Federal or State wetlands and waterway permits (California Fish & Game Code Section 1602 Lake and Streambed Alteration Agreement, CWA Section 401 Water Quality Certification, and CWA Section 404 Nationwide or Individual Permit) and coordination with the regulatory agencies. Permit conditions may include, but not be limited to, implementation of construction BMPs and limitations on equipment operation in surface waters when flow is present. The Lake and Streambed Alteration Program gives CDFW oversight and approval of public or private projects that would divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake. Any alteration of drainage patterns are reviewed and approved by CDFW, RWQCB, and USACE prior to permit issuance to ensure drainage alterations are minimal or properly mitigated to prevent flooding. The Section 1602, 401 and 404 permits would also specify permit conditions regulating temporary alteration or diversion of surface waters during construction in order to ensure that proper measures are in place to prevent downstream flooding. In addition, the change in impervious surfaces and storm water runoff would not be substantially different than the existing condition and would not likely be substantially altered by construction activities. Therefore, impacts related to on- or off-site flooding as a result of alteration of existing drainage patterns would be less than significant.

Operation Impacts

The Proposed Project would involve the creation of new permanent graded areas for structure sites and access roads. Substation modifications would create relatively small new impermeable surfaces with the potential to have a minor increase in the rate of storm water runoff. However, surface gradients and drainage features of transmission structure site, access roads, and substations would be designed to minimize changes in storm water runoff. Access road and drainage improvement maintenance activities would occur on an as-needed basis and would help to minimize erosion and the potential for sedimentation of waterways. Most regular O&M activities of overhead facilities are performed from existing access roads, and therefore they would not result in additional surface disturbance and would not likely substantially alter drainage patterns and increase runoff within the Project Area. Operation and maintenance activities would be conducted according to the explanation provided in Section 3.12, Project Operation and Maintenance. The change in impervious surfaces and storm water runoff would not be substantially different than the existing condition and would not likely be altered by O&M activities; therefore, impacts related on- or off-site flooding as a result of alteration of existing drainage patterns would be less than significant.

Would the project create or contribute to runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

The following discussion addresses all Proposed Project components, including substation modifications, 220 kV transmission lines, 66 kV subtransmission lines, 12 kV distribution lines, telecommunication facilities, and the establishment of staging yards.

Construction Impacts

The Proposed Project would involve ground-disturbing activities, including the removal of existing improvements, clearing and grading for structure installation work areas, access road construction, and installation of drainage improvements (such as wet crossings, water bars, and culverts). The use of water for dust control and soil compaction would be in compliance with the California and Federal CGPs and would be applied to minimize runoff. The creation of new permanent access and spur roads, widening of existing roads, and general alteration of existing topographic gradients could potentially modify the terrain and alter runoff patterns. In addition, grading and construction activities would compact soil, and construction of structures would increase the impervious area, which can increase runoff during construction. However, the change in impervious surfaces and storm water runoff would not be substantially different than the existing condition and would not likely be substantially altered by construction activities. Construction of transmission lines would add negligible amounts of impervious surfaces. Addition of impervious surface area at localized sites, such as substations, would have the potential to have a minor increase in the rate of storm water runoff. However, the Proposed Project would be designed to minimize the change in storm water runoff.

Proposed Project activities could also result in additional sources of polluted runoff. Disturbed soils accelerate erosion and increase sediment in storm water runoff to receiving waters, causing increased turbidity and sedimentation. The potential for increased soil erosion and sedimentation would be greatest in areas of steep terrain and during installation of drainage improvements. In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via storm runoff into receiving waters.

As discussed previously, coverage under the California and Federal CGPs would have to be obtained for the Proposed Project. Under the California and Federal CGPs, the Proposed Project would be required to prepare SWPPPs and implement construction BMPs detailed in the SWPPPs during construction activities. Construction BMPs would include, but not be limited to, erosion control and sediment control BMPs designed to minimize erosion and retain sediment on site and non-storm water and material management BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters. In addition to minimizing erosion and sedimentation, BMPs such as sandbags, silt fencing, straw wattles, erosion control fabrics (geotextiles), storm drains, energy dissipaters, riprap, and soil berms would reduce the amount of storm water flow from areas of active construction.

Hazardous materials would be transported, used, and disposed of in accordance with applicable rules and regulations designed to protect the environment. The Proposed Project construction would also be managed in accordance with the WEAP as specified in Section 3.9, Worker Environmental Awareness Program of the Project Description, which is a worker awareness and educational training program to ensure that all employees working at the site comply with the SWPPPs, site-specific BMPs, and notification requirements in case of an accidental spill.

Potential water quality impacts during construction, including additional sources of runoff within jurisdictional drainages, would be minimized through compliance with the conditions set forth in the Federal or State permits (California Fish & Game Code Section 1602 Lake and Streambed Alteration Agreement, CWA Section 401 Water Quality Certification, and CWA Section 404 Nationwide or Individual Permit) and coordination with the regulatory agencies.

If groundwater is encountered, dewatering would be conducted in compliance with the Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (SWRCB's Water Quality Order No. 2003-0003-DWQ). Water quality testing would be performed to characterize the constituents of the water; if the levels are under the specific Basin Plan Thresholds, dewatered groundwater could be utilized for dust control. If the Basin Plan Thresholds cannot be met, the groundwater would be shipped to a licensed off-site facility for treatment and disposal.

Because the change in impervious area and the rate of storm water runoff and the contribution of additional sources of polluted runoff from construction of the Proposed Project would be minor compared to existing conditions and the Proposed Project would (1) comply with the requirements of the California and Federal CGPs with site-specific BMPs to target pollutant of concerns and construction storm water runoff, (2) comply with SWRCB Water Quality Order No. 2003-0003-DWQ if dewatering is needed, and (3) coordinate with regulatory agencies, construction impacts related to exceedance of storm water drainage system capacity and increase in the sources of polluted runoff would be less than significant.

Operation Impacts

The Proposed Project would involve the creation of new permanent graded areas for structure sites and access roads. The typical transmission access road consists of a network of (dirt or paved or both) roads accessed from paved public and private roads. The paved roads and substations would introduce impervious surface areas. Dirt roads would be compacted and essentially impervious. As such, substation modifications and access road construction would create relatively small new impermeable surfaces with the potential to have a minor increase in the rate of storm water runoff and minor contribution of additional sources of polluted runoff to the existing storm drain system. Maintenance of access roads and structure pads (e.g., gravelling, vegetation clearance) could also contribute minor additional sources of storm water runoff by compacting the soil, which would reduce infiltration. However, surface gradients and drainage features of transmission structure sites, pulling-and-tensioning sites, access roads, and substations would be designed to minimize changes in storm water runoff and reduce the potential for erosion. The change in impervious surfaces, storm water runoff, and maintenance activities would not be substantially different than the existing condition; therefore, the Proposed Project would not substantially alter the flow or contribution of pollutants to the downstream storm drain system.

As discussed previously, if the non-linear portion of the Proposed Project is permitted under the traditional, non-LUP Construction General permit requirements, it would be

subject to post-construction requirements. Ongoing O&M activities would be conducted according to the explanation provided in Section 3.12, Project Operation and Maintenance. Access road and drainage improvement maintenance activities would help to minimize erosion and the potential for sedimentation.

Because the change in the rate of storm water runoff and the contribution of additional sources of polluted runoff from the Proposed Project would be minor compared to existing conditions, and O&M activities would be conducted according to the explanation provided in Section 3.12, Project Operation and Maintenance, operational impacts related to the exceedance of storm water drainage system capacity and increases in the sources of polluted runoff would be less than significant.

Would the project otherwise substantially degrade water quality?

The following discussion addresses all Proposed Project components, including substation modifications, 220 kV transmission lines, 66 kV subtransmission lines, 12 kV distribution lines, telecommunication facilities, and the establishment of staging yards.

Construction Impacts

The applicable Federal, State, and local water quality standards and laws have been addressed in the previous criteria. No other potential impacts to water quality, beyond those discussed above, have been identified. As such, construction of the Proposed Project would not otherwise degrade water quality.

Operation Impacts

The applicable Federal, State, and local water quality standards and laws have been addressed in the previous criteria. No other potential impacts to water quality, beyond those discussed above, have been identified. As such, operation of the Proposed Project would not otherwise degrade water quality.

Would the project place housing within a 100-year floodplain, as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

The following discussion addresses all Proposed Project components, including substation modifications, 220 kV transmission lines, 66 kV subtransmission lines, 12 kV distribution lines, telecommunication facilities, and the establishment of staging yards.

Construction Impacts

The Proposed Project involves the removal and relocation of existing utilities and does not involve any housing development. Therefore, construction of the Proposed Project would not place housing within a 100-year flood hazard area and there would be no impact.

Operation Impacts

The Proposed Project involves the removal and relocation of existing utilities and does not involve any housing development. Therefore, implementation of the Proposed Project would not place housing within a 100-year flood hazard area and there would be no impact.

Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

The following discussion addresses all Proposed Project components, including substation modifications, 220 kV transmission lines, 66 kV subtransmission lines, 12 kV distribution lines, telecommunication facilities, and the establishment of staging yards.

Construction Impacts

Although SCE would avoid placing structures within drainages to the greatest extent feasible, the Proposed Project would result in the placement of transmission structures within 100-year flood hazard areas, including areas near San Timoteo Creek (Segment 1), Reche Canyon (Segment 2), Potrero Creek (Segment 4), Millard Canyon (Segment 5), and the San Gorgonio River (Segments 5 and 6) (refer to Figure 4.9-1, Watersheds and Flood Zones). The foundation footprint of the proposed transmission structures placed in these areas would not be large enough to raise the 100-year flood hazard area within the 100-year floodplains near San Timoteo Creek, Reche Canyon, Potrero Creek, Millard Canyon, and the San Gorgonio River. The cross-sectional areas of the LST foundations and TSPs would not be a substantial portion of the typical width of the floodplain for the major watercourses crossing the Proposed Project and, therefore, would not impede flood flows or redirect flood flows to areas not currently within a flood hazard area. One staging yard, Lugonia, would be located within the 100-year floodplain in Zone X (areas outside 1 percent annual chance or 1 percent chance with depths less than 1 foot., drainages less than 1 square mile, or levee protected areas).² Zone X areas are not considered Special Flood Hazard Areas (SFHA), but are areas defined by FEMA as having moderate flood hazard.³ Lugonia Staging Yard is situated adjacent to an area designated as Zone A (areas subject to inundation by the 1 percent annual chance flood event). Permanent structures would not be placed in staging yards. Staging yards would be used as a reporting location for workers, vehicle and equipment parking, and material storage. The yards may also have temporary construction trailers for supervisory and clerical personnel. Structures and equipment to support activities at the staging yards would be temporary and would be removed at the completion on construction activities. Any land that may be disturbed at the staging yard would be restored to pre-construction

² The term “1-percent annual chance flood” is also referred to as the base flood or 100-year flood.

³ Federal Emergency Management Agency Flood Zone Definitions (available at <http://www.fema.gov/national-flood-insurance-program-2/flood-zones>), accessed 7/22/2013.

conditions or to conditions agreed upon between SCE and the landowner⁴ following the completion of construction for the Proposed Project. As such, the construction impacts related to placement of structures within the 100-year flood hazard areas would be less than significant.

Operation Impacts

As stated above, the Proposed Project would result in the placement of transmission structures within 100-year flood hazard areas, including areas near San Timoteo Creek (Segment 1), Millard Canyon (Segment 5), and the San Gorgonio River (Segments 5 and 6). SCE would avoid placing structures within drainages to the greatest extent practicable. Final locations for transmission, subtransmission, distribution, and telecommunications structures would be determined upon completion of final engineering. Should a structure be located in a flood area, the cross-sections of the tower and pole foundations would not constitute a substantial portion of the typical width of the floodplain for the major watercourses in the Proposed Project, and would therefore not be large enough to impede or redirect flood flows or raise the base flood elevation. Furthermore, any structures placed within 100-year floodplain boundaries would be designed per applicable floodplain development guidelines. Thus, a transmission, subtransmission, distribution, or telecommunications structure would not substantially alter the drainage pattern for the area or a stream or watercourse, nor impede or redirect flood flows. Operation and maintenance would not result in the addition of new structures into the 100-year floodplain.

Normal operation of the lines would be controlled remotely through SCE control systems, and manually in the field as required. SCE inspects the transmission, subtransmission, telecommunications, and distribution overhead facilities in a manner consistent with CPUC GO 165, a minimum of once per year via ground and/or aerial observation. Maintenance would occur as needed and could include activities such as repairing conductors, washing or replacing insulators, repairing or replacing other hardware components, replacing poles and structures, tree trimming, brush and weed control, and access road maintenance. Most regular O&M activities of overhead facilities are performed outside the 100-year floodplain, from existing access roads with no surface disturbance. Repairs to existing facilities, such as repairing or replacing existing poles and structures, could occur in undisturbed areas; however, O&M activities would not likely substantially impede or redirect flood flows. Therefore, with implementation of appropriate design measures, the impacts related to placement of structures within the 100-year flood hazard areas would be less than significant.

⁴ Fencing and other improvements at the staging yard locations may stay in place post-construction per the landowner's request. The potential staging yard locations identified as previously disturbed would be returned to pre-existing conditions.

Would the project 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 following discussion addresses all Proposed Project components, including substation modifications, 220 kV transmission lines, 66 kV subtransmission lines, 12 kV distribution lines, telecommunication facilities, and the establishment of staging yards.

Construction Impacts

Based on the Safety Element of the County of Riverside 2003 General Plan, and the 2009 Geologic Hazard Overlays of the San Bernardino County Land Use Plan, the Proposed Project does not cross areas subject to dam inundation. The closest manmade lake or reservoir to the Proposed Project is El Casco Lake. However, based on a review of the FEMA FIRMs, the Proposed Project does not cross areas protected by levees. Therefore, construction of the Proposed Project would not occur in areas subject to dam or levee inundation. As such, construction of the Proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving flooding resulting from the failure of a levee or dam. There would be no impact from construction activities associated with the Proposed Project.

Operation Impacts

As stated above, the Proposed Project does not cross areas subject to dam or levee inundation. Therefore, the structures proposed as part of the Proposed Project would not be placed in areas subject to dam inundation. As such, operation of the Proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving flooding resulting from the failure of a levee or dam. There would be no impact from operation of the Proposed Project.

Would the project expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?

The following discussion addresses all Proposed Project components, including substation modifications, 220 kV transmission lines, 66 kV subtransmission lines, 12 kV distribution lines, telecommunication facilities, and the establishment of staging yards.

Construction Impacts

Seiching is a phenomenon that occurs when seismic ground shaking induces standing waves (seiches) inside water-retention facilities such as reservoirs and water tanks. Such waves can cause retention structures to fail and flood downstream properties. Construction of the Proposed Project would not occur near in elevation to a natural or manmade lake or reservoir, and would therefore not occur in an area subject to inundation from seiche. The closest manmade lake or reservoir to the Proposed Project is El Casco Lake. The Proposed Project is elevated approximately 100 feet or more above the El Casco Lake in Segment 3, and would therefore not be subject to inundation by seiche. Therefore, the risk associated with possible seiche waves is not considered a

potential constraint of the Proposed Project. There would be no impact related to inundation from seiche from construction of the Proposed Project.

Tsunamis are generated wave trains generally caused by tectonic displacement of the sea floor associated with shallow earthquakes, sea floor landslides, rock falls, and/or exploding volcanic islands. Due to the distance from the Pacific Ocean (approximately 46 miles), construction of the Proposed Project would not occur within a tsunami inundation zone. The risk associated with tsunamis is therefore not considered a potential hazard or a potentially significant impact. There would be no impact related to inundation from tsunami from construction of the Proposed Project.

Mudflows typically occur in areas of steep slopes where underlying earth materials are relatively weak and particularly where sufficient vegetative growth is lacking. Mudflows are typically caused by high-incident rainfall or concentrated surface runoff conditions that weaken surficial materials. Mudflows can be caused by construction activities related to weakened earth materials, denudation of vegetation or variations in drainage patterns. Portions of the Proposed Project are located in areas of steep terrain, unstable earth materials and existing landslides, and have the potential for mudflows to affect the construction of the Proposed Project. Mudflows can cause damage to slopes, embankments, roadways, transmission structures, foundations, substation improvements, and other structures. The Proposed Project would be designed and constructed in accordance with the appropriate engineering design and common construction practices. As discussed in Section 4.6, Geology and Soils, the final design and construction of all Proposed Project components would incorporate appropriate engineering design and common construction practices to address geologic and soil hazards including mudflows, therefore, the Proposed Project would not result in impacts related to mudflows.

Operation Impacts

As stated above, the Proposed Project is not located near a natural or manmade lake or reservoir, and is not subject to inundation from seiche. In addition, due to the distance from the Pacific Ocean, the Proposed Project is not located within a tsunami inundation zone. Therefore, there would be no impact related to the risk of loss, injury, or death involving inundation by seiche or tsunami during operation of the Proposed Project. There would be no impact related to inundation from seiche from operation of the Proposed Project.

As stated above, portions of the Proposed Project are located in areas of steep terrain, unstable earth materials and existing landslides, and have the potential for mudflows to affect the Proposed Project improvements. Mudflows can cause damage to slopes, embankments, roadways, transmission structures, foundations, substation improvements, and other structures.

The effects of O&M for the Proposed Project would be similar to those described for construction as it relates to mudflows. In addition, normal O&M of the Proposed Project would be controlled remotely through SCE control systems, and thus, no additional full-time, on-site staff would be necessary for O&M of the Proposed Project. On-site

inspections and maintenance would require the temporary presence of personnel on site; however, they would be present only on a short-term, periodic basis and would not be expected to be exposed to substantial risks, injury, or death involving mudflow. Therefore, the potential operation impacts related to mudflows would be less than significant.

4.9.4.2 NEPA Impact Assessment

Based on the analysis performed, it is anticipated that the Proposed Project would not result in significant effects under NEPA.

4.9.5 Applicant Proposed Measures

Although the Proposed Project would not result in potentially significant impacts associated with hydrology and water quality, Applicant Proposed Measures have been included to further reduce impacts:

- APM-HYDRO-1:** Installation of drainage improvements would be designed to maintain the existing flow patterns as practicable.
- APM-HYDRO-2:** Soil disturbance at towers and access roads would be minimized and designed to prevent long-term erosion through revegetation or construction of permanent erosion control structures.
- APM-HYDRO-3:** Erosion control and hazardous material plans will be incorporated into the construction bidding specifications to ensure compliance.

4.9.6 Alternative Project

The 220 kV Line Route Alternative 2 (Alternative Project) would include relocation of an approximately 3-mile section of Segment 5 of the existing Proposed Project corridor pursuant to an agreement between SCE and Morongo. Both the Proposed Project and Alternative Project include the same common elements outside of Segment 5.

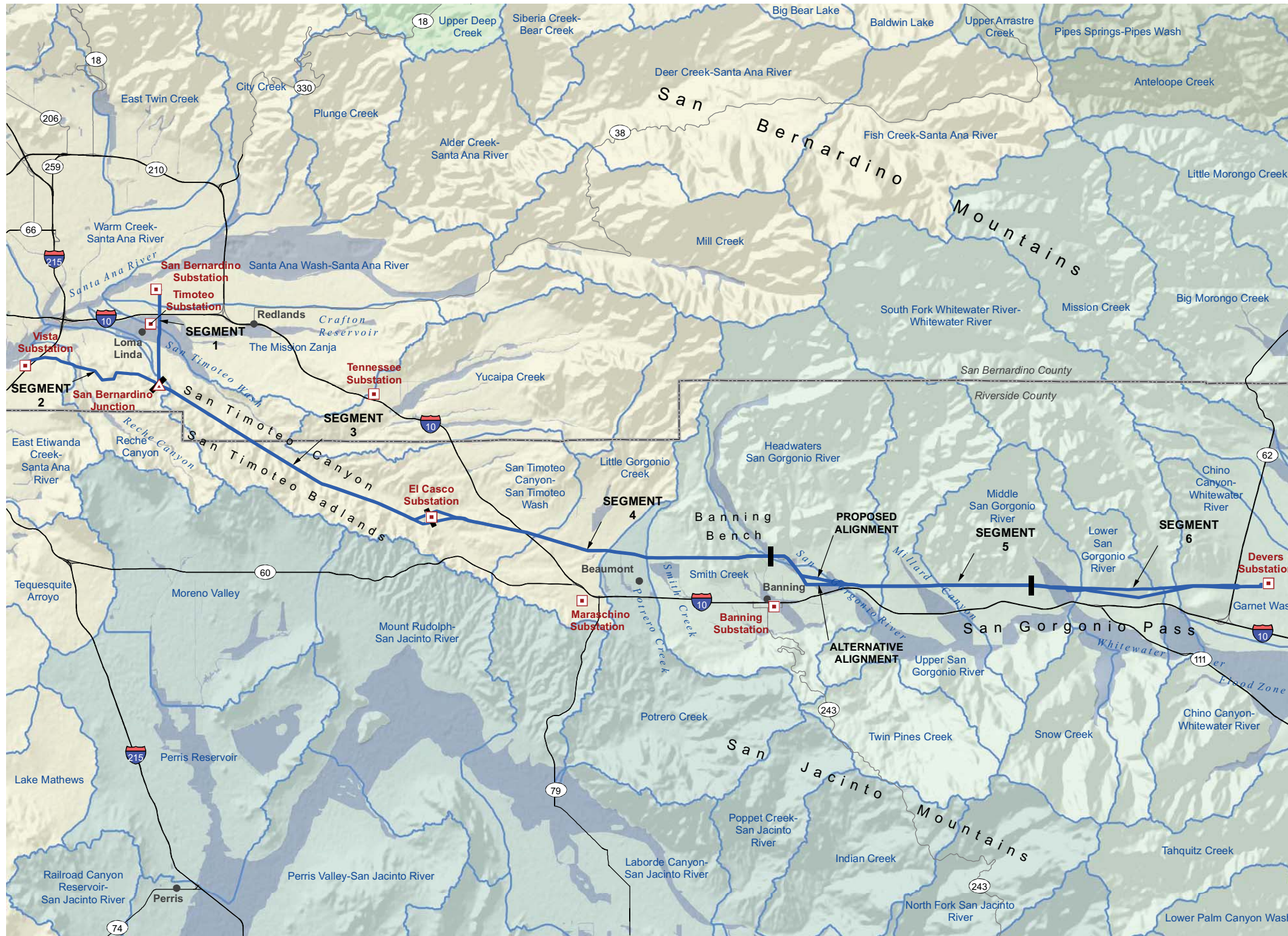
The Alternative Project transects the Reservation in a different location than the Proposed Project (refer to Figure 2-3, Proposed and Alternative Transmission Line Routes). This alternative would be located approximately 500 feet to 1,500 feet south of and roughly parallel to the Proposed Project. The Alternative Project is approximately 0.13 mile longer than the Proposed Project. Construction, operation, and maintenance activities for the Alternative Project would be the same as the Proposed Project and would include use of the same equipment. Due to the similarities between the Proposed Project and Alternative Project in Segment 5, there are no substantial hydrological variations in the impact assessment between the Proposed Project and Alternative Project. The hydrology and water quality-related impacts of the Alternative Project are essentially the same as the Proposed Project.

4.9.7 No Project Alternative

Under the No Project Alternative, existing conditions would remain in place. The associated facilities would continue to operate in the existing hydrological environment. The No Project Alternative would not result in the construction or operation of the Proposed Project. No new impacts to hydrology or water quality would result.

4.9.8 References Cited

- City of Banning. 2006. *City of Banning General Plan*, adopted January 31.
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- City of Redlands. 1997. *City of Redlands 1995 General Plan*, adopted August 1995, as amended on December 12, 1997.
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- Ninyo & Moore. June 2013. Hydrology and Water Resources Environmental Setting Evaluation.



LEGEND

- PROJECT ALIGNMENT
- ALIGNMENT SEGMENT BREAK
- JUNCTION
- SUBSTATION
- FEMA 100-YEAR FLOOD ZONE
- WATERSHED SUB-UNIT BOUNDARY AND NAME

WATERSHEDS

- SAN JACINTO RIVER
- SANTAANA RIVER
- WHITEWATER RIVER

SOURCES: FEMA Q3 Flood Data - California Digital Conservation Atlas (Cal-Atlas), 2012; HYDROLOGIC BASINS - Natural Resources Conservation Service, the Environmental Protection Agency, and the United States Geological Survey, California Digital Conservation Atlas (Cal-Atlas), 2012

FIGURE 4.9-1

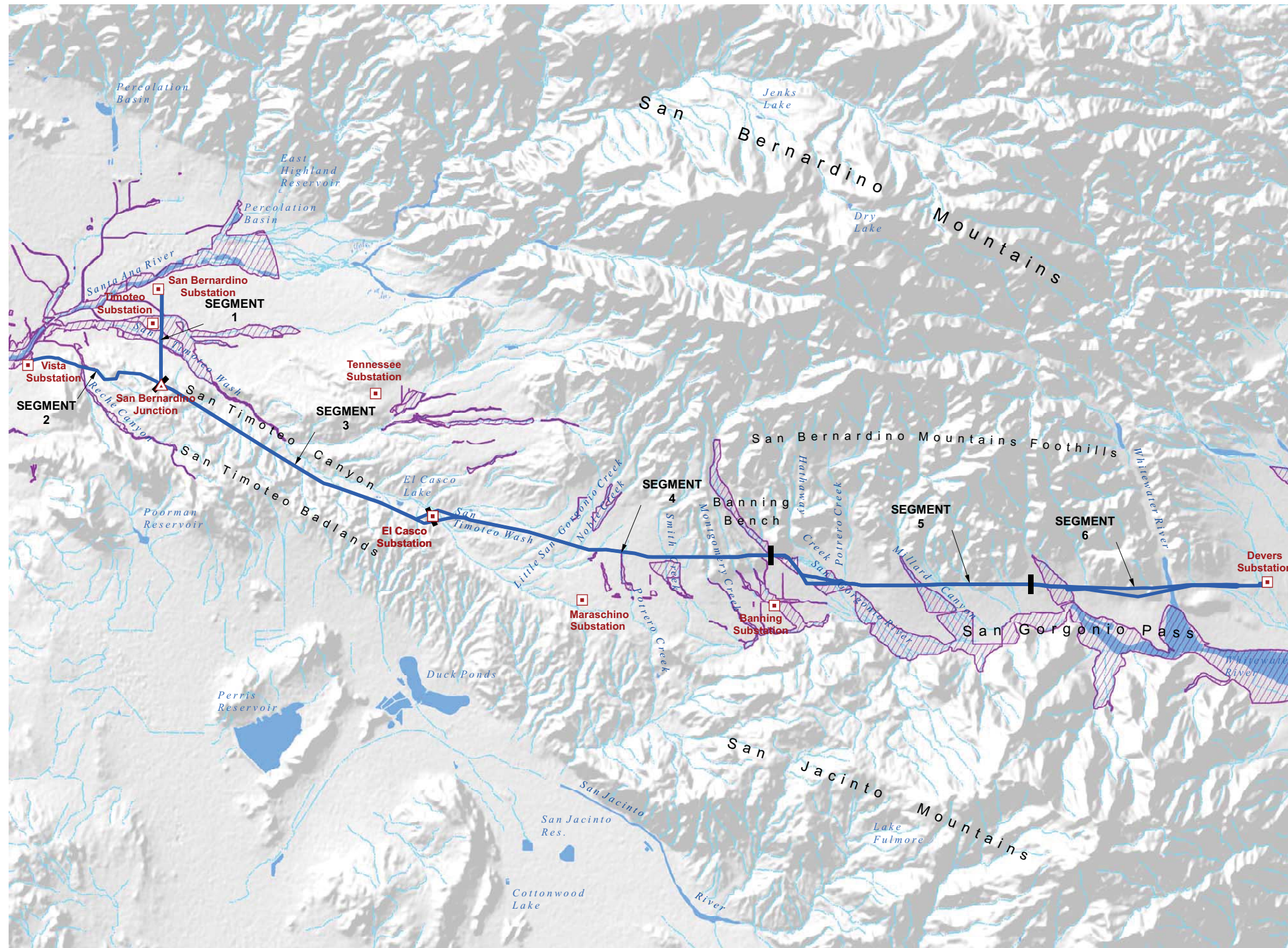
SOUTHERN CALIFORNIA
EDISON
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SOURCE: Ninyo & Moore
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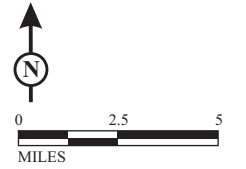
*Southern California Edison
West of Devers Upgrade Project
Watersheds and Flood Zones*

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SOURCES: FEMA Q3 Flood Data - California Digital Conservation Atlas (Cal-Atlas), 2012;
 SURFACE HYDROLOGY - California Digital Conservation Atlas (Cal-Atlas), 2012

FIGURE 4.9-2



SOURCE: Ninyo & Moore
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Southern California Edison
 West of Devers Upgrade Project
 Surface Hydrology

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