

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA**

In the Matter of the Application of SOUTHERN
CALIFORNIA EDISON COMPANY (U 338-E)
for a Permit to Construct Electrical Facilities:
Eldorado-Lugo-Mohave Series Capacitor Project.

Application No. 18-05-xxx

PROPONENT'S ENVIRONMENTAL ASSESSMENT (PEA)

ELDORADO-LUGO-MOHAVE SERIES CAPACITOR PROJECT

VOLUME 3 OF 8

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VOLUME 3 – TABLE OF CONTENTS

4.9 HYDROLOGY AND WATER QUALITY	4.9-1
4.9.1 Environmental Setting	4.9-1
4.9.2 Regulatory Setting	4.9-27
4.9.3 Significance Criteria	4.9-33
4.9.4 Impact Analysis	4.9-34
4.9.5 Applicant-Proposed Measures	4.9-41
4.9.6 Mid-Line Series Capacitor Site Alternatives	4.9-41
4.9.7 References.....	4.9-43
4.10 LAND USE AND PLANNING	4.10-1
4.10.1 Environmental Setting	4.10-1
4.10.2 Regulatory Setting	4.10-6
4.10.3 Significance Criteria	4.10-17
4.10.4 Impact Analysis	4.10-17
4.10.5 Applicant-Proposed Measures	4.10-22
4.10.6 Mid-Line Series Capacitor Site Alternatives	4.10-22
4.10.7 References.....	4.10-23
4.11 MINERAL RESOURCES.....	4.11-1
4.11.1 Environmental Setting	4.11-1
4.11.2 Regulatory Setting	4.11-22
4.11.3 Significance Criteria	4.11-25
4.11.4 Impact Analysis	4.11-26
4.11.5 Applicant-Proposed Measures	4.11-27
4.11.6 Mid-Line Series Capacitor Site Alternatives	4.11-27
4.11.7 References.....	4.11-29
4.12 NOISE	4.12-1
4.12.1 Environmental Setting	4.12-1
4.12.2 Noise in the Proposed Project Area	4.12-1
4.12.3 Ground-Borne Vibration and Noise.....	4.12-6
4.12.4 Regulatory Setting	4.12-7
4.12.5 Significance Criteria	4.12-13
4.12.6 Impact Analysis	4.12-13
4.12.7 Applicant-Proposed Measures	4.12-20
4.12.8 Mid-Line Series Capacitor Site Alternatives	4.12-21
4.12.9 References.....	4.12-22
4.13 POPULATION AND HOUSING	4.13-1
4.13.1 Environmental Setting	4.13-1
4.13.2 Regulatory Setting	4.13-6
4.13.3 Significance Criteria	4.13-8
4.13.4 Impact Analysis	4.13-8
4.13.5 Applicant-Proposed Measures	4.13-11
4.13.6 Mid-Line Series Capacitor Site Alternatives	4.13-11
4.13.7 References.....	4.13-12
4.14 PUBLIC SERVICES	4.14-1
4.14.1 Environmental Setting	4.14-1

4.14.2 Regulatory Setting	4.14-11
4.14.3 Significance Criteria	4.14-14
4.14.4 Impact Analysis	4.14-14
4.14.5 Applicant-Proposed Measures	4.14-17
4.14.6 Mid-Line Series Capacitor Site Alternatives	4.14-18
4.14.7 References.....	4.14-19
4.15 RECREATION	4.15-1
4.15.1 Environmental Setting	4.15-1
4.15.2 Regulatory Setting	4.15-19
4.15.3 Significance Criteria	4.15-24
4.15.4 Impact Analysis	4.15-24
4.15.5 Applicant-Proposed Measures	4.15-27
4.15.6 Mid-Line Series Capacitor Site Alternatives	4.15-27
4.15.7 References.....	4.15-29
4.16 TRANSPORTATION AND TRAFFIC	4.16-1
4.16.1 Environmental Setting	4.16-1
4.16.2 Existing Roadway Network Setting.....	4.16-1
4.16.3 Regulatory Setting	4.16-31
4.16.4 Significance Criteria	4.16-35
4.16.5 Impact Analysis	4.16-35
4.16.6 Applicant-Proposed Measures	4.16-43
4.16.7 Mid-Line Series Capacitor Site Alternatives	4.16-43
4.16.8 References.....	4.16-45
4.17 UTILITIES AND SERVICE SYSTEMS.....	4.17-1
4.17.1 Environmental Setting	4.17-1
4.17.2 Regulatory Setting	4.17-10
4.17.3 Significance Criteria	4.17-15
4.17.4 Impact Analysis	4.17-16
4.17.5 Applicant-Proposed Measures	4.17-21
4.17.6 Mid-Line Series Capacitor Site Alternatives	4.17-21
4.17.7 References.....	4.17-23
4.18 CUMULATIVE ANALYSIS.....	4.18-1
4.18.1 Past Projects	4.18-25
4.18.2 Aesthetics.....	4.18-36
4.18.3 Agriculture and Forestry Resources.....	4.18-38
4.18.4 Air Quality	4.18-39
4.18.5 Biological Resources	4.18-40
4.18.6 Cultural Resources	4.18-43
4.18.7 Geology and Soils.....	4.18-44
4.18.8 Greenhouse Gas Emissions.....	4.18-44
4.18.9 Hazards and Hazardous Materials	4.18-45
4.18.10 Hydrology and Water Quality.....	4.18-47
4.18.11 Noise	4.18-49
4.18.12 Recreation	4.18-50
4.18.13 Transportation and Traffic	4.18-51
4.18.14 Utilities and Service Systems.....	4.18-52

4.18.15 References..... 4.18-54
4.19 GROWTH-INDUCING IMPACTS 4.19-1

VOLUME 3 – LIST OF FIGURES

Figure 4.9-1: Hydrologic Regions and Groundwater Basin Map 4.9-3
 Figure 4.9-2: FEMA Flood Hazard Zones Map..... 4.9-17
 Figure 4.11-1: Mineral Resources Producers, Past Producers, and Prospects Within 1 Mile of the Proposed Project 4.11-3
 Figure 4.12-1: Construction Vibration Amplitudes 4.12-17
 Figure 4.14-1: Public Services Within the Vicinity of the Proposed Project 4.14-3
 Figure 4.15-1: Recreational Facilities Within 1 Mile of the Proposed Project..... 4.15-9
 Figure 4.16-1: Roadway Network in the Vicinity of the Proposed Project 4.16-7
 Figure 4.18-1: Planned and Proposed Projects within 5 Miles of the Proposed Project 4.18-9

VOLUME 3 – LIST OF TABLES

Table 4.10-1: Existing Land Uses Crossed by the Proposed Project..... 4.10-2
 Table 4.10-2: Land Use Designations Crossed by the Proposed Project..... 4.10-11
 Table 4.10-3: Zoning Designations Crossed by the Proposed Project..... 4.10-14
 Table 4.11-1: Mineral Resources Producers, Past Producers, and Prospects Within 1 Mile of the Proposed Project..... 4.11-13
 Table 4.11-2: Mineral Resource Zone Definitions 4.11-22
 Table 4.12-1: Sensitive Receptors within 500 Feet of the Proposed Project..... 4.12-3
 Table 4.12-2: Noise Monitoring Summary 4.12-5
 Table 4.12-3: Human Response to Different Levels of Ground-Borne Vibration and Noise 4.12-6
 Table 4.12-4: County of San Bernardino Noise Standards for Stationary Noise Sources.... 4.12-10
 Table 4.12-5: County of San Bernardino Standards for Adjacent Mobile Noise Sources ... 4.12-10
 Table 4.12-6: City of Hesperia Noise Standards 4.12-11
 Table 4.12-7: Clark County Standard Permitted Sound Levels during Operation 4.12-12
 Table 4.12-8: Construction Equipment Noise Levels..... 4.12-14
 Table 4.13-1: Historic Population Trends..... 4.13-2
 Table 4.13-2: Forecasted Population Trends 4.13-2
 Table 4.13-3: Housing Units and Vacancy Rates 4.13-4
 Table 4.13-4: Employment Figures and Unemployment Rate 4.13-5
 Table 4.13-5: Median Annual Household Income Data 4.13-6
 Table 4.14-1: Schools Within 1 Mile of the Proposed Project 4.14-8
 Table 4.15-1: Recreational Facilities Within 1 Mile of the Proposed Project 4.15-2
 Table 4.16-1: Roadway Network in the Vicinity of the Proposed Project 4.16-2
 Table 4.16-2: Level of Service Definitions..... 4.16-25
 Table 4.16-3: Level of Service at Traffic Study Intersections during Proposed Project Construction 4.16-27
 Table 4.17-1: Landfill Capacity 4.17-8
 Table 4.18-1: Cumulative Projects within 1 Mile of the Proposed Project 4.18-3
 Table 4.18-2: Cumulative Projects within 5 Miles of the Proposed Project..... 4.18-27

VOLUME 3 – LIST OF ATTACHMENTS

- Attachment 4.10-A: Existing Land Uses Within 1 Mile of the Proposed Project
- Attachment 4.10-B: Relevant Land Use Plans and Policies Consistency Analysis
- Attachment 4.10-C: General Plan Designations Within 1 Mile of the Proposed Project
- Attachment 4.10-D: Zoning Designations Within 1 Mile of the Proposed Project

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TABLE OF CONTENTS

4.9 HYDROLOGY AND WATER QUALITY 4.9-1

- 4.9.1 Environmental Setting 4.9-1
- 4.9.2 Regulatory Setting 4.9-27
- 4.9.3 Significance Criteria 4.9-33
- 4.9.4 Impact Analysis 4.9-34
- 4.9.5 Applicant-Proposed Measures 4.9-41
- 4.9.6 Mid-Line Series Capacitor Site Alternatives 4.9-41
- 4.9.7 References..... 4.9-43

LIST OF FIGURES

Figure 4.9-1: Hydrologic Regions and Groundwater Basin Map 4.9-3

Figure 4.9-2: FEMA Flood Hazard Zones Map..... 4.9-17

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4.9 Hydrology and Water Quality

This section describes the hydrology and water quality in the area of the Eldorado-Lugo-Mohave Series Capacitor Project (Proposed Project¹), as well as the potential impacts and alternatives.

Hydrology and water quality in the Proposed Project area were evaluated through a reconnaissance-level survey and review of the following:

- The Proposed Project Preliminary Jurisdictional Delineation Report
- City and county general plans
- United States (U.S.) Geological Survey (USGS) 7.5-minute series quadrangle maps
- Online geographic information system sources
- Aerial photographs of the Proposed Project area

The Water Quality Control Plans for the Lahontan Regional Water Quality Control Board (RWQCB) and Colorado River RWQCB were reviewed to determine the different state and local regulations to protect the beneficial uses of surface and groundwater resources for California. The Nevada Division of Environmental Protection's (NDEP's) regulations were also reviewed for Nevada. Federal Emergency Management Agency (FEMA) maps were referenced to determine the location and extent of flood zones.

4.9.1 Environmental Setting

The Proposed Project is located in California and Nevada, within the Mojave Basin and Range (Mojave). Federal lands constitute a majority of the land area in the Mojave, including lands under the jurisdiction of the Bureau of Land Management (BLM), National Park Service (NPS), Bureau of Reclamation (BOR), and Department of Defense (DoD). The Proposed Project would modify three existing transmission lines that extend northeast from Lugo Substation (located in San Bernardino County, California) to Eldorado Substation (located in the City of Boulder City, Nevada) and Mohave Substation (located in Clark County, Nevada), and from Mohave Substation northwest to Eldorado Substation. Portions of the Proposed Project would also cross the City of Hesperia, California, the unincorporated community of Lucerne Valley in California, as well as the unincorporated communities of Searchlight and Laughlin in Nevada.

4.9.1.1 General Hydrologic Setting

The Proposed Project transects the Mojave Desert Geomorphic Province. The elevation of the Proposed Project ranges from 780 feet near Mohave Substation to 4,000 feet above mean sea level (amsl) at various points. In the National Oceanic and Atmospheric Administration's 2015 Climate Summary, rainfall records from the nearest climatological station to Eldorado Substation² showed an average annual rainfall of approximately 4.9 inches. Between 1981 and 2010, the average annual high temperature was approximately 80.1 degrees Fahrenheit (°F) and the average annual low temperature was 58.7°F. Within the vicinity of Lugo Substation, water

¹ The term "Proposed Project" is inclusive of all components of the Eldorado-Lugo-Mohave Series Capacitor Project. Where the discussion in this section focuses on a particular component, that component is called out by its individual work area (e.g., "Ludlow Series Capacitor").

² The nearest climatological station to Eldorado Substation is located in the City of Las Vegas.

generally flows from south to northeast, toward the Mojave River, and from there to isolated basins in the interior of the Mojave. Near Mohave Substation, water flows from west to east, toward the Colorado River. The Colorado River eventually empties to the Gulf of California, south of the U.S.-Mexico border. In the vicinity of Eldorado Substation, water generally flows from southwest to northeast, into the Eldorado Dry Lake.

4.9.1.2 Surface Water

The Proposed Project is located within the Havasu-Mohave Lakes, Piute Wash, Ivanpah-Pahrump Valleys, Mojave, and Southern Mojave Hydrological Units. Maps depicting jurisdictional features crossed by the Proposed Project are included in Appendix J: Jurisdictional Delineation Maps. The Proposed Project crosses the following major waterbodies:

- Argos Wash
- Black Canyon Wash
- Broadwell Wash
- Budweiser Wash
- Cottonwood Wash
- Governor Edmund G. Brown East Branch California Aqueduct
- Kelso Wash
- Mojave River
- Piute Wash
- Watson Wash
- Willow Wash
- Winston Wash
- Woods Wash

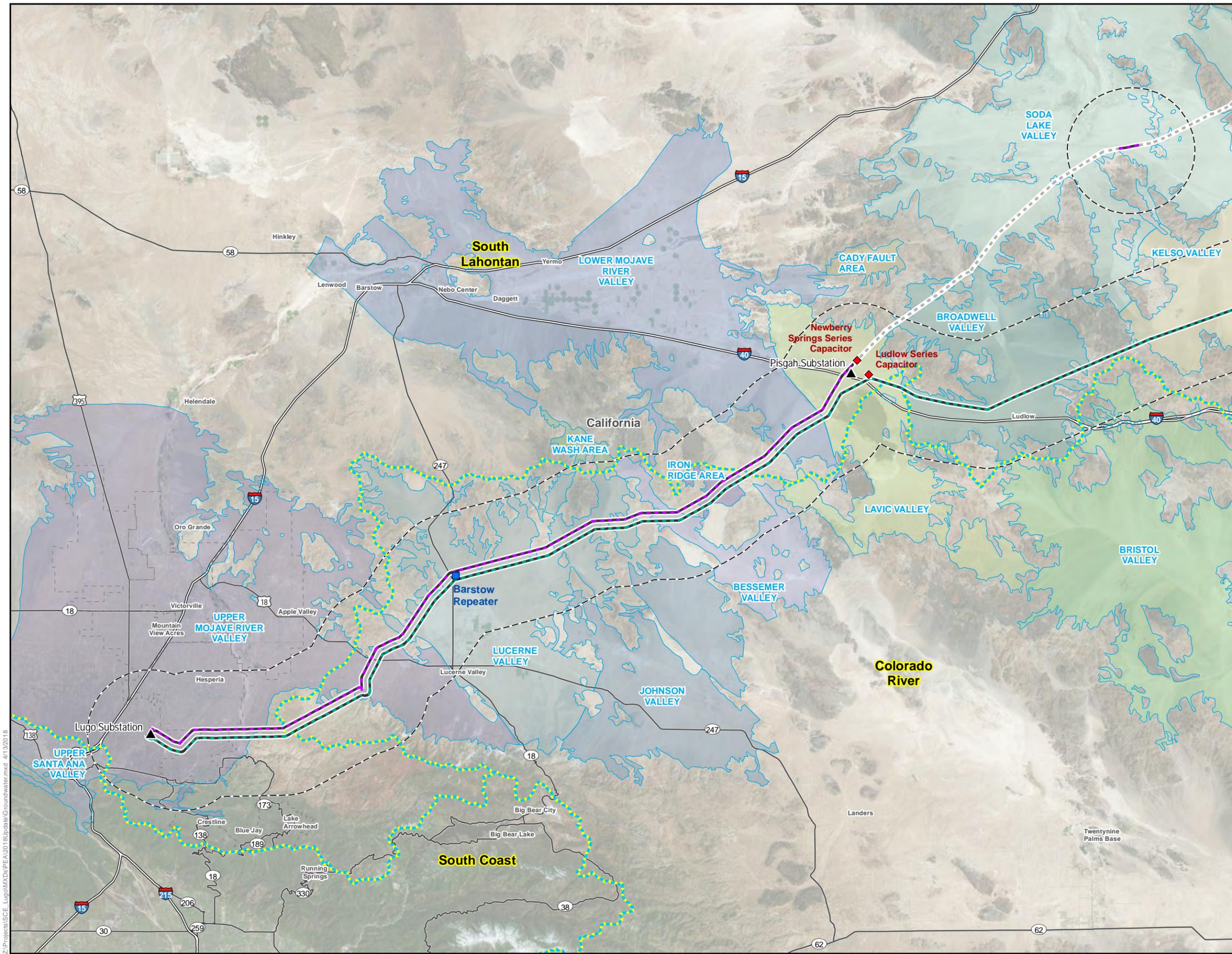
A total of 588 hydrological features were identified within the Proposed Project area and include five intermittent drainages covering approximately 8.0 acres, 582 ephemeral drainages covering approximately 252.3 acres, and one approximately 0.2-acre wetland that is potentially under the jurisdiction of the U.S. Army Corps of Engineers (USACE), State Water Resources Control Board (SWRCB),³ and NDEP. Approximately 304.8 acres of potential drainages and riparian vegetation and approximately 0.2 acre of wetlands under the California Department of Fish and Wildlife's (CDFW's) jurisdiction were also identified within the Proposed Project area. These waters, as well as non-jurisdictional waters that were identified during field surveys, are detailed in Appendix J: Jurisdictional Delineation Maps.

4.9.1.3 Groundwater

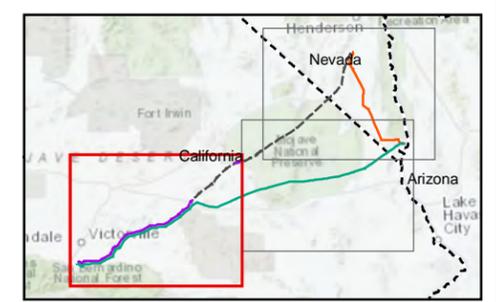
The groundwater basins underlying the Proposed Project area are described in the following subsections and are shown in Figure 4.9-1: Hydrologic Regions and Groundwater Basin Map.

³ When a project falls within the jurisdiction of two or more RWQCBs, the SWRCB assumes regulatory oversight of the project.

**Figure 4.9-1:
Hydrologic Regions and
Groundwater Basins
Map 1 of 3
Eldorado-Lugo-Mohave
Series Capacitor Project**



- ▲ Existing Substation
- ◆ Proposed Mid-Line Capacitor Location
- Proposed Fiber Optic Repeater Location
- Eldorado - Lugo 500 kV Transmission Line
- Lugo - Mohave 500 kV Transmission Line
- - - Transmission Line not part of Project
- 5-Mile Project Buffer
- - - City Boundary
- - - State Boundary
- Hydrological Region
- Groundwater Basin

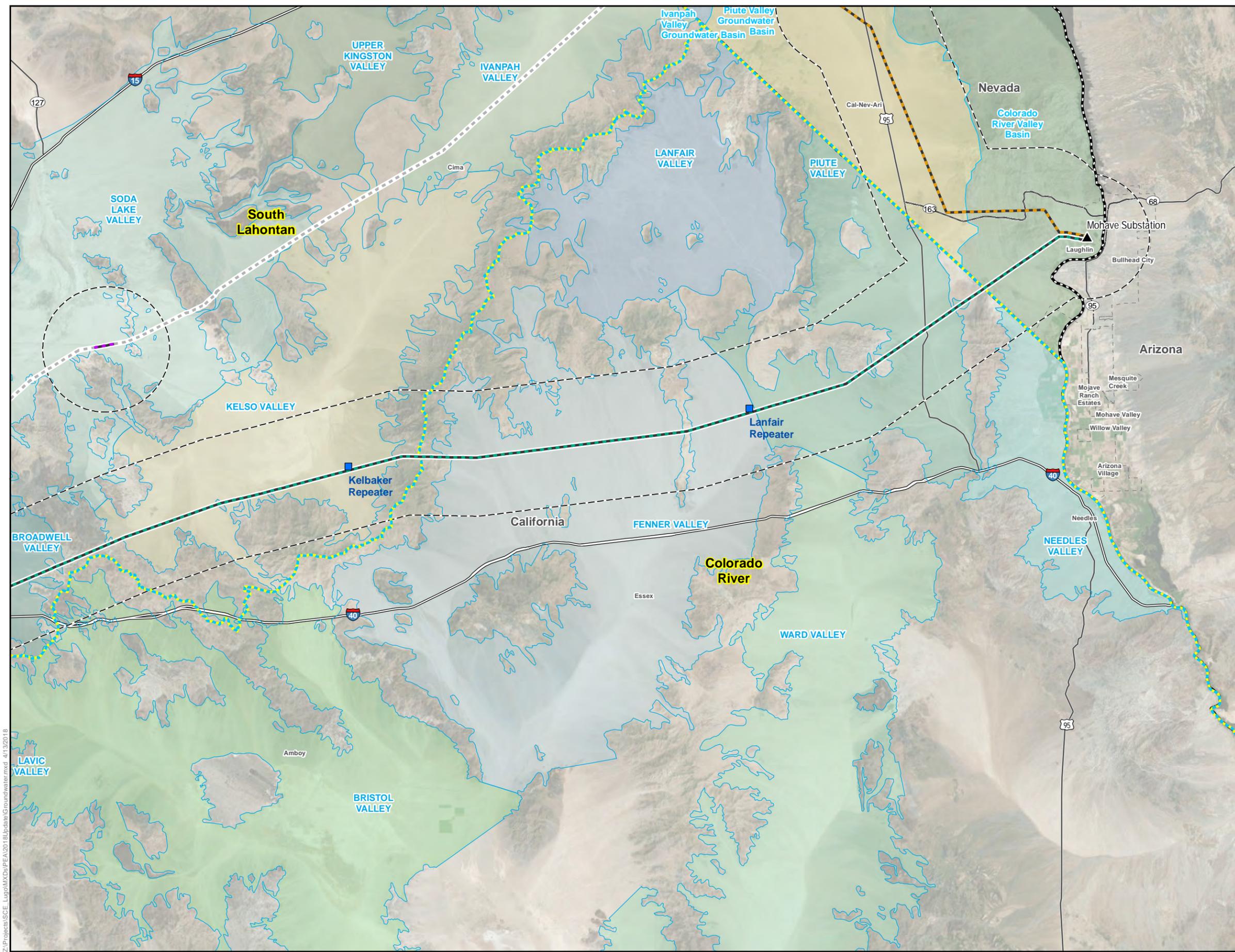


Source: California Geological Survey, 2015; Insignia, 2018; SCE 2018; U.S. Geological Survey, 2015;

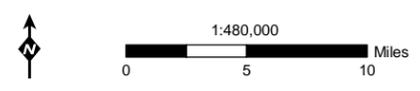
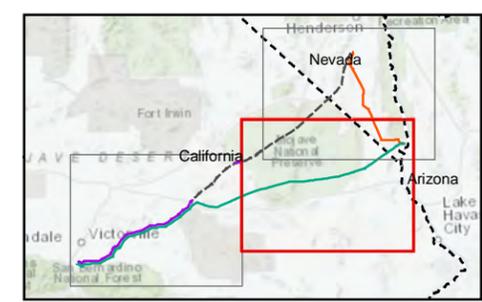
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**Figure 4.9-1:
Hydrologic Regions and
Groundwater Basins
Map 2 of 3
Eldorado-Lugo-Mohave
Series Capacitor Project**



- ▲ Existing Substation
- Proposed Fiber Optic Repeater Location
- Eldorado - Lugo 500 kV Transmission Line
- Eldorado - Mohave 500 kV Transmission Line
- Lugo - Mohave 500 kV Transmission Line
- Transmission Line not part of Project
- - - 5-Mile Project Buffer
- - - City Boundary
- - - State Boundary
- State Highway/US Highway
- ▭ Hydrological Region
- ▭ Groundwater Basin



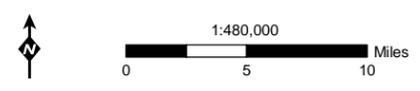
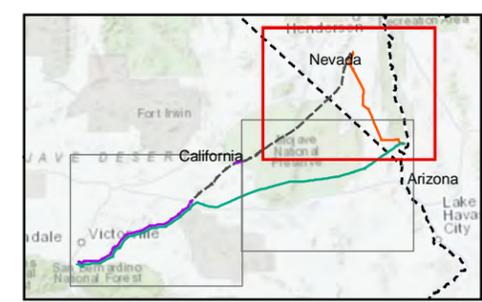
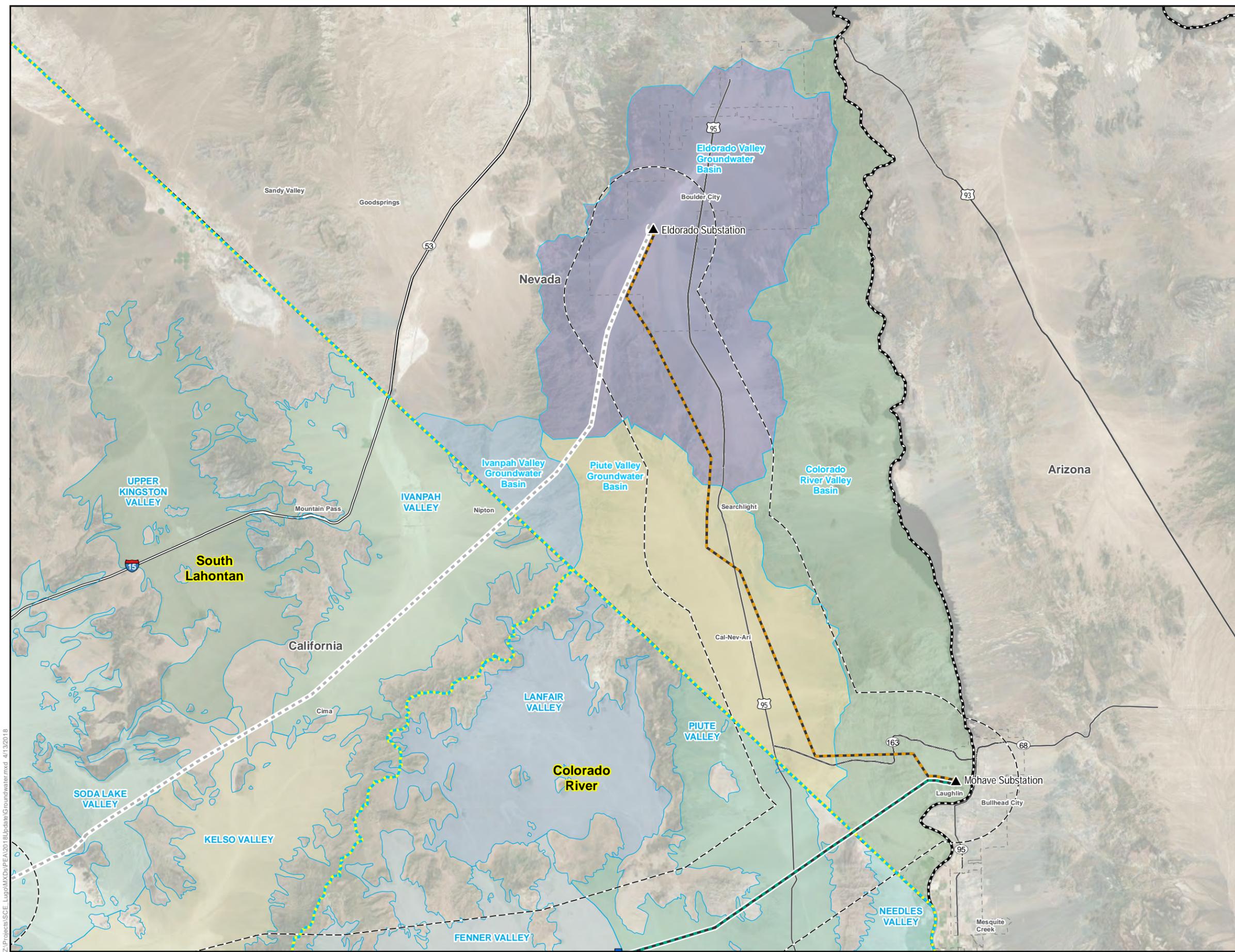
Source: California Geological Survey, 2015; Insignia, 2018; SCE 2018; U.S. Geological Survey, 2015;

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**Figure 4.9-1:
Hydrologic Regions and
Groundwater Basins
Map 3 of 3
Eldorado-Lugo-Mohave
Series Capacitor Project**

- ▲ Existing Substation
- Proposed Fiber Optic Repeater Location
- Eldorado - Mohave 500 kV Transmission Line
- Lugo - Mohave 500 kV Transmission Line
- - - Transmission Line not part of Project
- 5-Mile Project Buffer
- - - City Boundary
- State Boundary
- == Interstate
- State Highway/US Highway
- Hydrological Region
- Groundwater Basin



Source: California Geological Survey, 2015; Insignia, 2018; SCE 2018; U.S. Geological Survey, 2015;

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California

Upper Mojave River Valley Groundwater Basin

Approximately 15 miles of the existing Eldorado-Lugo and Lugo-Mohave 500 kilovolt (kV) Transmission Lines are underlain by the Upper Mojave River Valley Groundwater Basin. This approximately 645-square-mile basin in San Bernardino County is bounded to the north by a roughly east-west line from basement rock outcrops near the community of Helendale to outcrops in the Shadow Mountains. The southern boundary of the basin is separated by the basement rocks of the San Bernardino Mountains and Quaternary sediment deposits. The western boundary is determined by a drainage divide that separates the basin from the El Mirage Valley Basin. The Eastern boundary is determined by a drainage divide that separates the basin from Lucerne Valley in the southeast and Middle Mojave River Valley to the northeast. The California Department of Water Resources (DWR) calculated the total storage for the Upper Mojave River Valley Groundwater Basin to be approximately 13 million acre-feet. In 1998, the available amount of stored water was estimated to be approximately 10.8 million acre-feet of stored groundwater. No estimates of available storage have been made recently.

Natural recharge of the basin is from direct precipitation, ephemeral stream flow, infrequent surface flow of the Mojave River, and underflow of the Mojave River into the basin from the southwest. Treated wastewater and septic tank effluent, discharge from two fish hatchery operations, and irrigation waters are allowed to percolate into the ground and recharge the groundwater system. The average precipitation varies across the basin from 5 to 36 inches with an average of approximately 12 inches, and wells in the Upper Mojave River Valley Groundwater Basin yield an average of approximately 630 gallons per minute (gpm). The general groundwater flow is toward the active channel of the Mojave River, and then it follows the course of the river through the valley. The Helendale fault forms a barrier to groundwater flow in the southeast corner of the basin. This barrier causes groundwater to flow northwest under a surface drainage divide into the Mojave River drainage instead of northeast into Lucerne Lake, which is dry, in the Lucerne Valley Basin.

Kelso Valley Groundwater Basin

Approximately 24 miles of the existing Lugo-Mohave 500 kV Transmission Line are located within the Kelso Valley Groundwater Basin. This approximately 400-square-mile groundwater basin underlies a northeast-trending valley in east-central San Bernardino County. Elevation of the valley floor ranges from 1,500 to 4,000 feet amsl. The basin is bounded by non-water-bearing, consolidated rocks of the Marl Mountains and Teutonia Peak on the north; the Providence Mountains on the east; the Granite, Old Dad, and Bristol Mountains on the south; and the Kelso Mountains on the west. Replenishment of the basin is primarily from the percolation of runoff from the surrounding mountains and infiltration of precipitation that falls to the valley floor. Groundwater in the younger and underlying older alluvium moves, as does the surface runoff, toward Kelso Wash and discharges as subsurface outflow to Soda Lake Valley Groundwater Basin. In 1984, water levels near Kelso, which is a ghost town located in the central part of the basin, were approximately 470 feet deep. In the far northeast part of the basin, water levels in wells ranged from 50 to 65 feet below the surface from 1969 to 1970. In the western part of the basin, the depth to water was approximately 350 feet in 1965. In 1975, wells in Kelso Valley Groundwater Basin yielded up to 370 gpm. The total storage capacity of the

basin is estimated to be approximately 5.3 million acre-feet. No estimates of available storage have been made recently.

Broadwell Valley Groundwater Basin

Approximately 6 miles of the existing Eldorado-Lugo 500 kV Transmission Line and 15 miles of the existing Lugo-Mohave 500 kV Transmission Line are located within the Broadwell Valley Groundwater Basin. The groundwater basin underlies a north-trending valley in south-central San Bernardino County. Elevation of the valley floor ranges from approximately 2,600 feet on the west to 1,296 feet amsl at Broadwell Lake. The basin is bounded by non-water-bearing consolidated rocks of the Cady Mountains on the north and west, the Bristol Mountains on the north and east, the Bullion Mountains on the south, and a surface drainage divide on the southwest. The Cady Mountains reach elevations of more than 4,600 feet. The average annual precipitation ranges from 3 to 5 inches. Runoff from the surrounding mountains drains toward Broadwell Lake in the north-central part of the basin. Recharge of the basin is mainly from the percolation of runoff through alluvial fan deposits at the base of the Bullion and Cady Mountains and from infiltration of precipitation that falls to the valley floor. Groundwater in the younger and underlying older alluvium moves in the direction of Broadwell Lake. From Broadwell Lake, groundwater likely moves north through alluvial deposits between the Cady Mountains on the northwest and the Bristol Mountains on the northeast and into the Soda Lake Valley Groundwater Basin. Of the few wells known to exist in the basin, most are dry. Groundwater was encountered at depths of approximately 785 and 1,084 feet in a well located at Ludlow in the southern part of the basin in 1883. Another well located along the west side of Broadwell Lake measured water at a depth of approximately 101.6 feet in 1979. The total storage capacity is estimated to be approximately 1.2 million acre-feet. No estimates of available storage have been made recently.

Fenner Valley Groundwater Basin

Approximately 25 miles of the existing Lugo-Mohave 500 kV Transmission Line are located within the Fenner Valley Groundwater Basin. This basin underlies Fenner and Clipper Valleys in eastern San Bernardino County. The basin is bounded by non-water-bearing rocks of the Marble and Providence Mountains on the west, the Providence and New York Mountains on the north, the Piute and Old Woman Mountains on the east, and the Ship and Old Woman Mountains on the south. Short segments of surface water and groundwater divides also compose parts of the northern, eastern, and southern boundaries. One short segment of the western boundary in Fenner Gap formed between the Marble and Ship Mountains, separating the Bristol Valley Groundwater Basin from the Fenner Valley Groundwater Basin. The average annual precipitation ranges from 7 to 10 inches. Wells in the Fenner Valley Groundwater Basin yield up to 200 gpm. Recharge in the basin is primarily from percolation of surface runoff through streambeds and washes. Because of limited pumping, groundwater levels in the basin have remained fairly stable. Groundwater flows from the edges of the basin toward the central drainage of Schuyler Wash and southwest out of the basin beneath Fenner Gap toward Bristol and Cadiz Lakes, which are normally dry. The total storage capacity is estimated at approximately 5.6 million acre-feet. No estimates of available storage have been made recently.

Lavic Valley Groundwater Basin

Approximately 8 miles of the existing Eldorado-Lugo and Lugo-Mohave 500 kV Transmission Lines cross the Lavic Galley Groundwater Basin. This approximately 160-square-mile groundwater basin underlies Lavic Valley in central San Bernardino County. The basin is bounded by non-water-bearing rocks of the Cady Mountains on the north and east, the Bullion Mountains on the south and east, the Lava Bed Mountains on the southwest, and the Pisgah fault on the west. Parts of the eastern and northern boundaries are drainage divides. The southern part of this basin lies within the Marine Corps Air Ground Combat Center Twentynine Palms. Surface drainage travels toward Hector Siding in the northern part of the basin and toward Lavic Lake, which is dry, in the southern part of the basin. The average annual precipitation ranges from 4 to 6 inches. In 1975, wells in the Lavic Valley Groundwater Basin yielded up to 140 gpm, with an average of 80 gpm. Recharge to the basin is from percolation of runoff from surrounding mountains through alluvial fans and washes. Subsurface flow from adjoining basins may also contribute to recharge. The total storage capacity is estimated to be approximately 2.7 million acre-feet. No estimates of available storage have been made recently. Recharge to the basin is from percolation of runoff from surrounding mountains through alluvial fans and washes. Subsurface flow from adjoining basins may also contribute to the approximately 300 acre-feet per year of recharge.

Bessemer Valley Groundwater Basin

Approximately 2.5 miles of the existing Eldorado-Lugo and Lugo-Mohave 500 kV Transmission Lines are located within the Bessemer Valley Groundwater Basin. This relatively small groundwater basin covers approximately 60 square miles in eastern San Bernardino County. The basin is bounded by non-water-bearing rocks of the Iron Ridge Mountains on the north, bedrock highlands on the south, the West Calico fault on the east, and the Emerson fault on the west. An arm of the basin extends northwest following the Camp Rock and Emerson faults, and is bounded by the Rodman Mountains on the east and the Fry Mountains and bedrock highlands on the west. Surface waters drain south toward Galway Lake. The average annual precipitation ranges from 4 to 8 inches. Wells in the basin yield up to 60 gpm. The principal source of recharge to the basin is likely percolation of runoff from surrounding mountains, as well as a negligible contribution from percolation of precipitation to the valley floor. The total storage capacity is estimated to be approximately 740,000 acre-feet, but no estimates of available storage have been made recently.

Lucerne Valley Groundwater Basin

Approximately 18 miles of the existing Eldorado-Lugo and Lugo-Mohave 500 kV Transmission Lines cross the Lucerne Valley Groundwater Basin. The approximately 230-square-mile groundwater basin underlies Lucerne and North Lucerne Valleys in the northwestern part of the Colorado River Hydrologic Region. The basin is bounded on the south by the San Bernardino Mountains and on the west by the Granite Mountains and the Helendale fault. The Ord Mountains bound the basin on the north. The Camp Rock fault and Kane Wash Area Groundwater Basin bound this basin on the east, and the Fry Mountains bound this basin on the southeast. Parts of the eastern and southeastern boundaries are surface drainage divides. Irrigation wells in the basin yield up to 1,000 gpm. The basin is primarily recharged by runoff from the San Bernardino Mountains and secondarily by runoff from the Granite, Ord, and Fry

Mountains to the north. Groundwater generally flows from areas of recharge toward Lucerne Lake. The depth to water varies from several feet below the land surface near the Helendale fault to more than 300 feet along the flanks of the San Bernardino Mountains; however, in most of the basin, it is approximately 150 feet. Water levels have declined in parts of the basin since 1917. Declines of 40 to 100 feet that affect both the unconfined and confined aquifers have occurred in the southwestern part of the basin. Some wells in the basin have declined as much as 100 feet since the early 1950s, indicating that overdraft is occurring. Land subsidence was noted in 1977 and had apparently been occurring in parts of the basin for many years due to overdraft of the aquifer system. Total groundwater storage capacity for the basin is reported to be approximately 2 million acre-feet. Groundwater in storage was estimated to be approximately 1.8 million acre-feet in 1977, but no estimates of available storage have been made recently.

Piute Valley Groundwater Basin

Approximately 17 miles of the existing Lugo-Mohave 500 kV Transmission Line are located within the Piute Valley Groundwater Basin. This basin underlies a portion of the Piute Valley in eastern San Bernardino County. The Piute Valley and its underlying groundwater basin extend into southern Nevada. The basin is bounded by the non-water-bearing rocks of the Dead Mountains on the east, the Piute Range and Homer Mountain on the northwest, the Piute Mountains on the southwest, and the Sacramento Mountains on the southeast. The valley is drained by Piute Wash to the southeastern part of the valley, where the drainage enters the Needles Valley and flows east to the Colorado River. The average annual precipitation ranges from 4 to 8 inches.

Groundwater in the basin is found in younger and older alluvium. Older alluvium of the Pleistocene age consists of fine to coarse sand interbedded with gravel, silt, and clay. Younger alluvium of the Holocene age consists of poorly sorted gravel, sand, silt, and clay. Valley fill extends to at least 1,044 feet in the central part of the basin and 920 feet in the southeastern part of the basin. Wells in the basin yield a maximum of 1,500 gpm, and the average yield for municipal and irrigation wells is 200 gpm. Recharge of the basin is primarily from percolation of runoff from surrounding mountains. Percolation of precipitation to the valley floor and subsurface inflow may be additional sources of recharge. Groundwater moves toward the southeastern part of the basin and into the Needles Valley Groundwater Basin. The total storage capacity is estimated to be approximately 2.4 million acre-feet. No estimates of available storage have been made recently.

Iron Ridge Area Groundwater Basin

Approximately 4 miles of the existing Eldorado-Lugo and Lugo-Mohave 500 kV Transmission Lines cross the Iron Ridge Area Groundwater Basin. This groundwater basin underlies a valley in the City of San Bernardino at the northern boundary of the Colorado Desert. The basin is bounded by non-water-bearing rocks of the Iron Ridge Mountains on all sides. The West Calico fault bounds the eastern portion of the basin. The average annual precipitation ranges from 4 to 8 inches. Groundwater is found in unconsolidated, younger Quaternary alluvial deposits and the underlying, unconsolidated to semi-consolidated, older Tertiary to Quaternary alluvial deposits. The maximum depth of the valley fill is at least 400 feet. Recharge to the basin is chiefly from the infiltration of runoff through alluvial deposits at the base of the surrounding mountains. No

estimates of well yields have been made recently. The groundwater storage capacity is unknown, and no estimates of available storage have been made recently.

Lower Mojave River Valley Groundwater Basin

Approximately 5 miles of the existing Lugo-Mohave 500 kV Transmission Line are located within the Lower Mojave River Valley Groundwater Basin. The Lower Mojave River Valley Groundwater Basin underlies an elongate east-west valley, with the Mojave River flowing (occasionally) through the valley from the west across the Waterman fault and exiting the valley to the east through Afton Canyon. The contact between unconsolidated Quaternary sediments and consolidated Tertiary and older rocks of the Waterman and Calico Mountains forms the northern boundary of the basin. The southern boundary is the contact between unconsolidated sediments and consolidated rocks forming Daggett Ridge, the Newberry Mountains, and the Rodman Mountains. This groundwater basin is bounded on the west by the Camp Rock-Harper Lake fault zone and on the southeast by the Pisgah fault. The northeastern boundary is an arbitrary divide between the adjacent Coyote Lake Valley Basin and Caves Canyon Valley Basin. The average precipitation varies across the basin from 4 to 6 inches, and the average is approximately 4 inches. Wells in the Lower Mojave River Valley Groundwater Basin can yield up to 2,700 gpm, but the average for the basin is approximately 480 gpm. Based on calculations provided by the DWR, there is approximately 9 million acre-feet of storage capacity for the Lower Mojave River Valley Groundwater Basin. By the end of 1998, there was an approximately 7.5 million acre-feet of estimated stored groundwater available. No estimates of available storage have been made recently. Treated wastewater effluent, septic tank effluent, and irrigation waters are allowed to percolate into the ground and recharge the groundwater system.

Nevada

Colorado River Valley Groundwater Basin

Approximately 20 miles of the existing Eldorado-Lugo 500 kV Transmission Line cross the Colorado River Valley Groundwater Basin in Clark County, Nevada. The basin lies within the Colorado River Hydrographic Region and covers approximately 563 square miles. The Colorado River Valley Groundwater Basin is bounded by the Nevada-Arizona border to the east, the Eldorado Valley Groundwater Basin to the north, and the Piute Valley Groundwater Basin to the west. The groundwater storage capacity is unknown, but groundwater recharge can be attributed to percolation from Spirit Mountain, Mount Newberry, and the Devils Thumb mountain ranges. Because no estimates of available storage have been made recently, current water levels are unknown.

Piute Valley Groundwater Basin

Approximately 26 miles of the existing Eldorado-Lugo 500 kV Transmission Line cross the Piute Groundwater Basin in Clark County, Nevada. The basin lies within the Colorado River Valley Groundwater Basin Hydrographic Region and covers approximately 338 square miles, including approximately 275 square miles that extend into San Bernardino County, California. The basin is confined by the McCullough Range on the northwest; the New York Mountains and Castle Mountains on the west; and the Highland Range, Newberry Mountains, the Sacramento Mountains to the South, and Dead Mountains on the east. Groundwater recharge comes from the percolation of runoff from the surrounding mountains, as well as percolation of precipitation into

the valley floor and subsurface inflow. The average annual precipitation ranges from 4 to 8 inches. Wells in the basin yield a maximum of 1,500 gpm, with an average of 200 gpm. In 1975, the total storage capacity was estimated at approximately 2.4 million acre-feet, while the natural recharge is estimated at approximately 1,200 acre-feet per year. No estimates of available storage have been made recently.

Eldorado Valley Groundwater Basin

Approximately 23 miles of the existing Eldorado-Lugo 500 kV Transmission Line cross the Eldorado Valley Groundwater Basin. The groundwater basin lies within the Central Hydrographic Region and covers approximately 530 square miles. This basin is confined by the Highland Range on the southwest, the McCullough Range and Black Mountains on the northwest, and the Eldorado Mountains on the east. The average annual precipitation is approximately 6 inches. The storage capacity and current water levels are unknown, as no estimates of available storage have been made recently.

4.9.1.4 Surface Water Quality

As described in Section 4.9.1.2, Surface Water, the Lahontan and Colorado River Water Quality Control Plans (Basin Plans) designates beneficial uses for surface waters and groundwater in the basins in California, while the NDEP designates the beneficial uses in Nevada. The Basin Plan also sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's antidegradation policy. The closest inland surface water with designated beneficial uses near Lugo Substation is Silverwood Lake, which is located approximately 5 miles southeast of the Proposed Project. Silverwood Lake is an approximately 73,000-acre reservoir and a recreational area used for fishing, boating, and swimming. The closest inland surface water with designated beneficial uses near Mohave Substation is the Colorado River, which is approximately 1.3 miles to the east of Mohave Substation. The Colorado River is used for irrigation, boating, fishing, and swimming. The closest inland surface water with designated beneficial uses near Eldorado Substation is the Colorado River, which is approximately 17.5 miles to the east of the substation. Within a 1-mile radius of the existing Lugo-Mohave and Eldorado-Mohave 500 kV Transmission Lines, there are no surface waters with beneficial uses.

303(d)-Listed Waterbodies

No 303(d)-listed waterbodies are located within a 1-mile radius of the Proposed Project.

4.9.1.5 Groundwater Quality

As described in Section 4.8, Hazards and Hazardous Materials, two open hazardous materials sites and one closed landfill were identified within 1 mile of Proposed Project components requiring ground disturbance. The Former Mohave Generating Station site is located adjacent to Mohave Substation and is currently in remediation. Because the extent of the contaminant plume and the existing contaminant levels are unknown, subsurface contaminants may exist in the vicinity of Mohave Substation. No other soil or groundwater contamination was identified in the vicinity of the Proposed Project components that require ground disturbance. Groundwater at Mohave Substation has been previously contaminated, due to the volatile organic compounds, petroleum hydrocarbons, metals, oils, and other unspecified contaminants associated with the

Former Mohave Generating Station. The Former Mohave Generating Station site is located west of Mohave Substation. The approximately 2,500-acre site was shut down in 2005 and subsequently demolished between 2009 and 2013. Database listings for this site include the Nevada Underground Storage Tanks (USTs), Nevada's Leaking UST List, and the Comprehensive Environmental Response, Compensation, and Liability Information System databases. Available regulatory documentation indicated that this site is currently in remediation due to the presence of several subsurface contaminants associated with the former operation, decommissioning, and demolition of the approximately 2,500-acre property. The extent of the subsurface contamination was not specified in available historical or regulatory documentation. Therefore, subsurface contaminants may be present in the vicinity of Mohave Substation.

A second source of pollutants at the Former Mohave Generating Station site comes from leaking USTs at Casino Drive Lift Station #24, which is located approximately 0.9 mile east of Mohave Substation. This site reported soil and groundwater impacts resulting from a release of diesel in 2005.

4.9.1.6 Floodplains

As shown in Figure 4.9-2: FEMA Flood Hazard Zones Map,⁴ based on FEMA's Flood Insurance Rate Maps (FIRMs), the Proposed Project crosses both 100- and 500-year floodplains. These floodplains are represented by a number of different FEMA zones, including Zones A, AE, AO, D, and X. Of these different zones, those with ratings of A, AE, and AO represent 100-year flood zones. The existing Eldorado-Lugo 500 kV Transmission Line crosses approximately 2.3 miles of a 100-year flood zone and 80.9 miles in areas with possible but undetermined flood zones. The existing Lugo-Mohave 500 kV Transmission Line crosses approximately 1.9 miles of 100-year flood zones and 166 miles of possible but undetermined flood hazards, and the existing Eldorado-Mohave 500 kV Transmission Line crosses approximately 9.5 miles of 100-year flood zones.

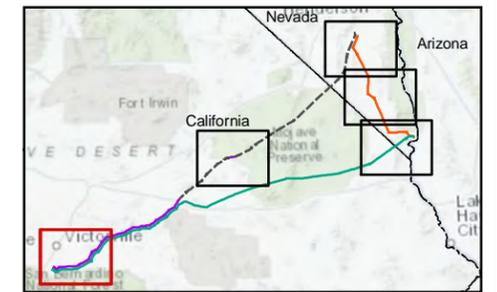
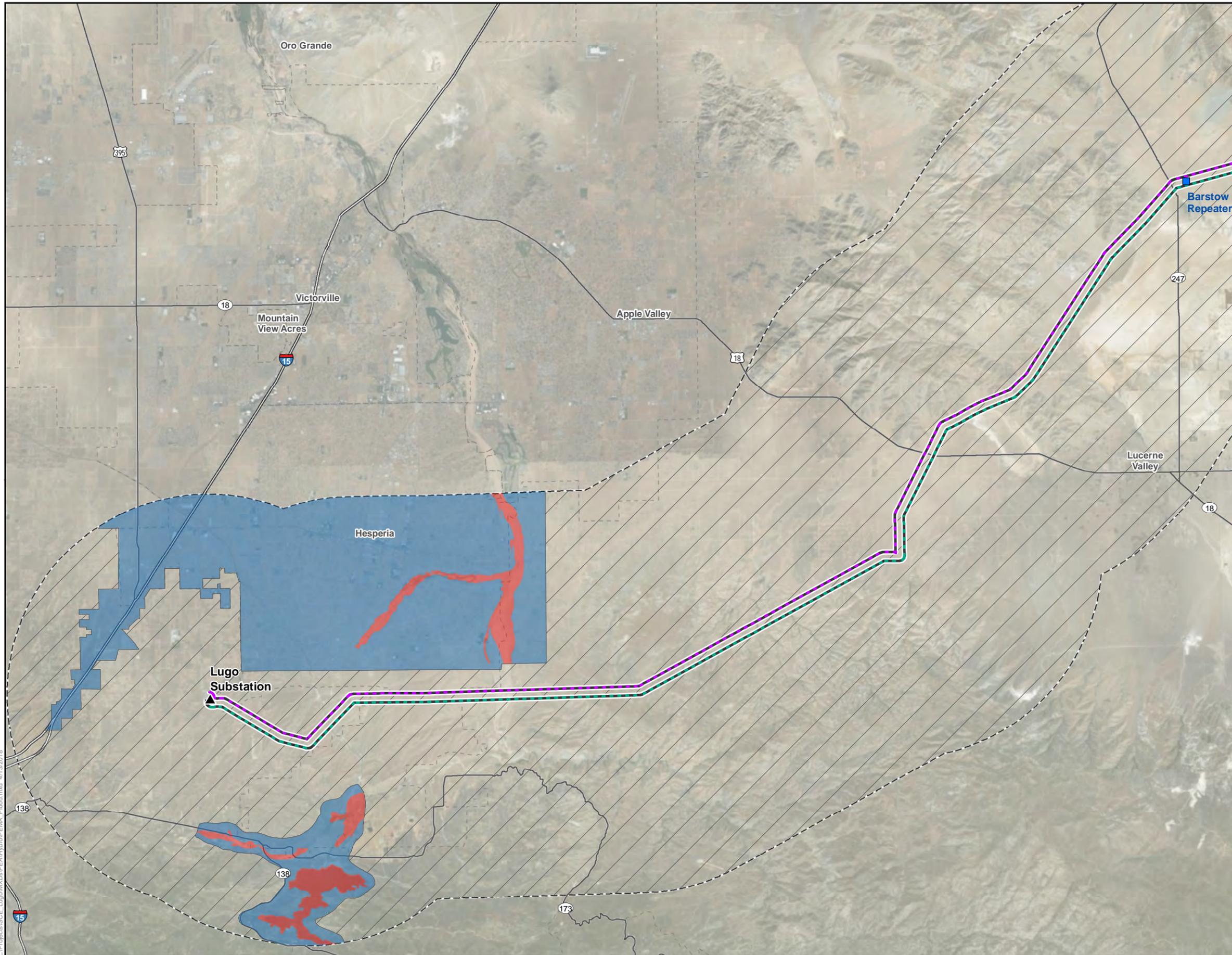
⁴ Figure 4.9-2: FEMA Flood Hazard Zones Map does not show Proposed Project areas where flood hazards do not exist.

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**Figure 4.9-2:
FEMA Flood Hazard Zones
Map 1 of 5**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

- ▲ Existing Substation
- Proposed Fiber Optic Repeater Location
- Eldorado - Lugo 500 kV Transmission Line
- Lugo - Mohave 500 kV Transmission Line
- - - 5-Mile Project Buffer
- - - City Boundary
- - - State Boundary
- Flood Zone**
- 1-Percent Annual Chance of Flooding
- 500-Year Flood Level
- ▨ Undetermined Flood Hazard



Source: California Geological Survey, 2015;
Insignia, 2018; SCE, 2018; U.S. Geological Survey, 2015

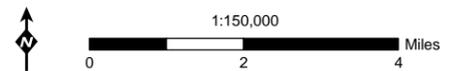
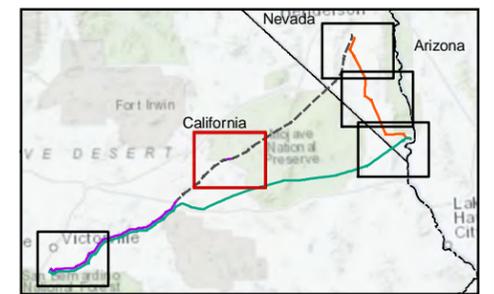
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**Figure 4.9-2:
FEMA Flood Hazard Zones
Map 2 of 5**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

-  Eldorado - Lugo 500 kV Transmission Line
 -  Lugo - Mohave 500 kV Transmission Line
 -  Transmission Line not part of Project
 -  5-Mile Project Buffer
 -  State Boundary
- Flood Zone**
-  1-Percent Annual Chance of Flooding
 -  500-Year Flood Level
 -  Undetermined Flood Hazard



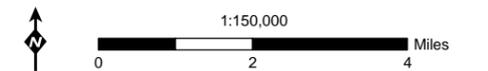
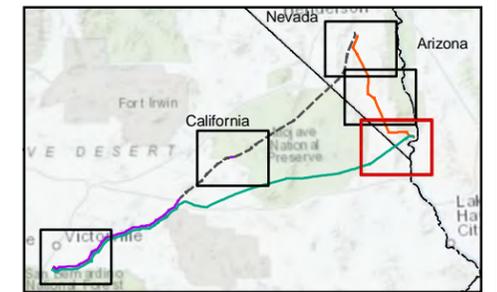
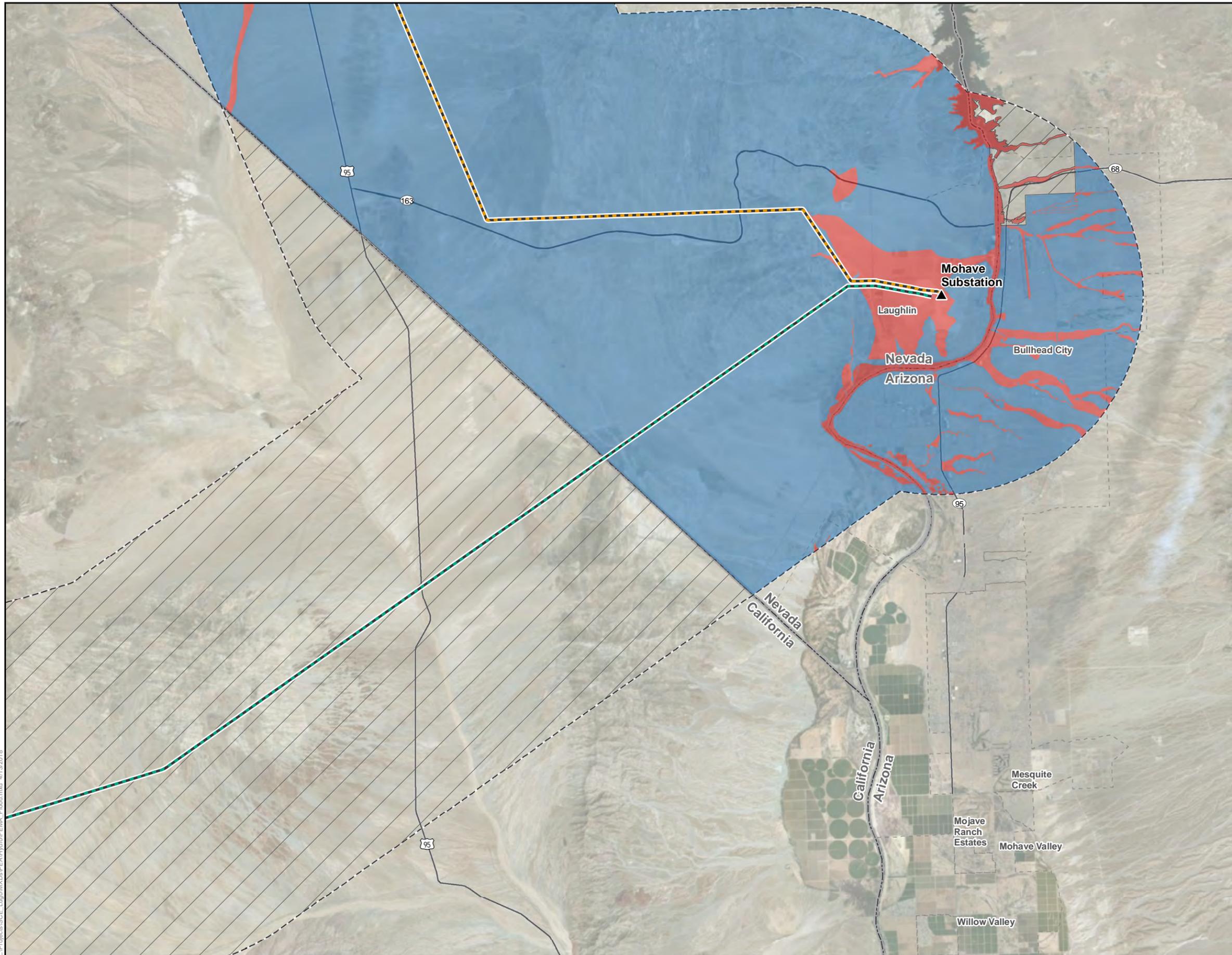
Source: California Geological Survey, 2015;
Insignia, 2018; SCE, 2018; U.S. Geological Survey, 2015

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**Figure 4.9-2:
FEMA Flood Hazard Zones
Map 3 of 5**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

- ▲ Existing Substation
 - Eldorado - Mohave 500 kV Transmission Line
 - Lugo - Mohave 500 kV Transmission Line
 - - - 5-Mile Project Buffer
 - - - City Boundary
 - ▭ State Boundary
 - State Highway/US Highway
- Flood Zone**
- 1-Percent Annual Chance of Flooding
 - 500-Year Flood Level
 - ▨ Undetermined Flood Hazard



Source: California Geological Survey, 2015;
Insignia, 2018; SCE, 2018; U.S. Geological Survey, 2015

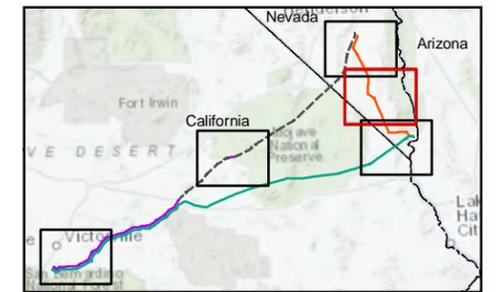
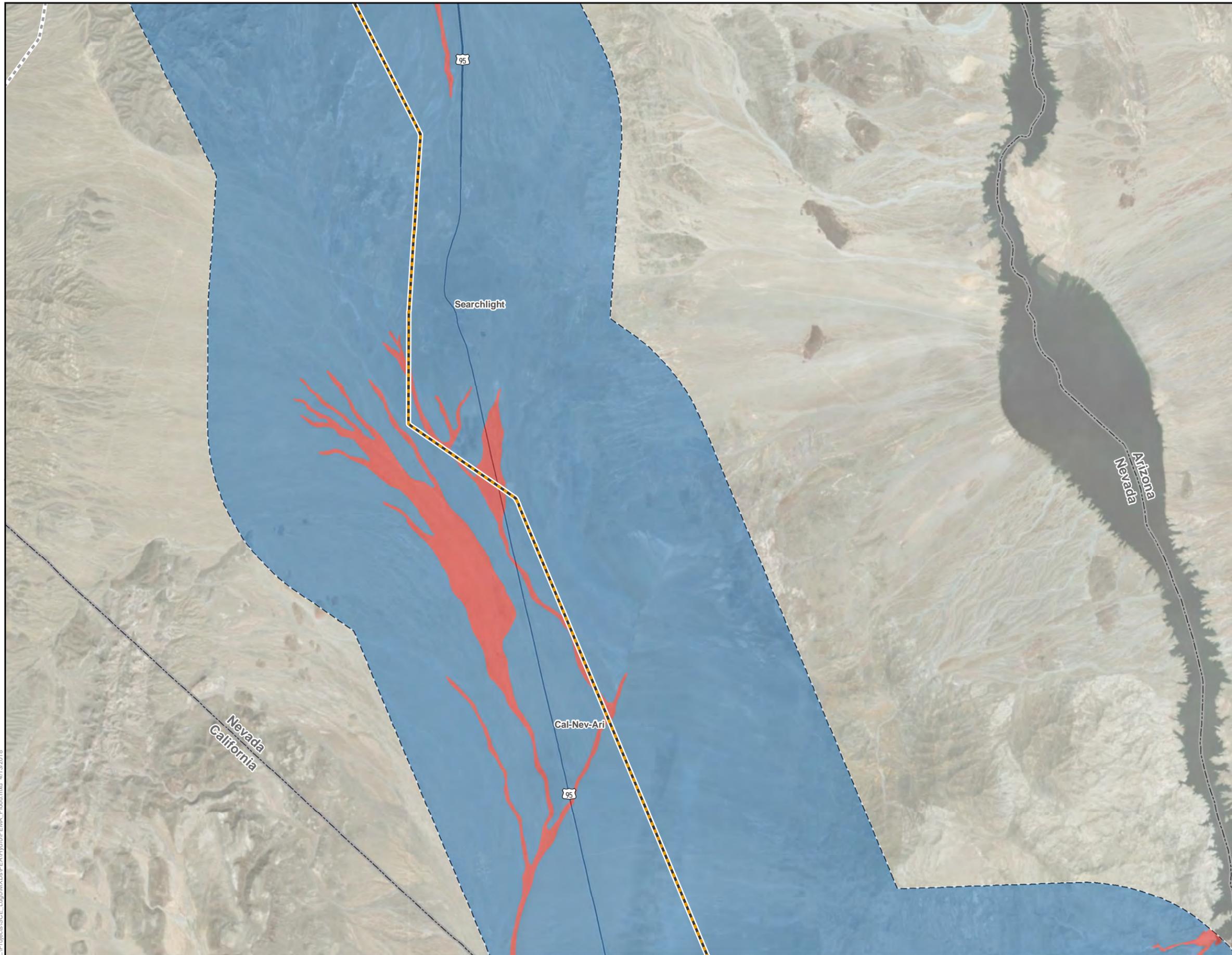
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**Figure 4.9-2:
FEMA Flood Hazard Zones
Map 4 of 5**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

-  Eldorado - Mohave 500 kV Transmission Line
 -  Transmission Line not part of Project
 -  5-Mile Project Buffer
 -  State Boundary
 -  State Highway/US Highway
- Flood Zone**
-  1-Percent Annual Chance of Flooding
 -  500-Year Flood Level
 -  Undetermined Flood Hazard



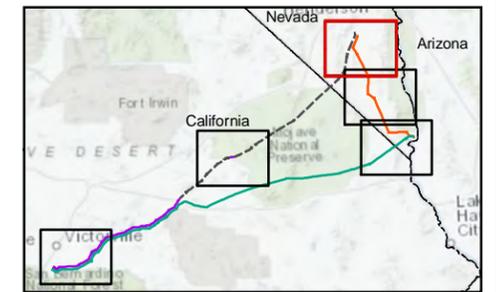
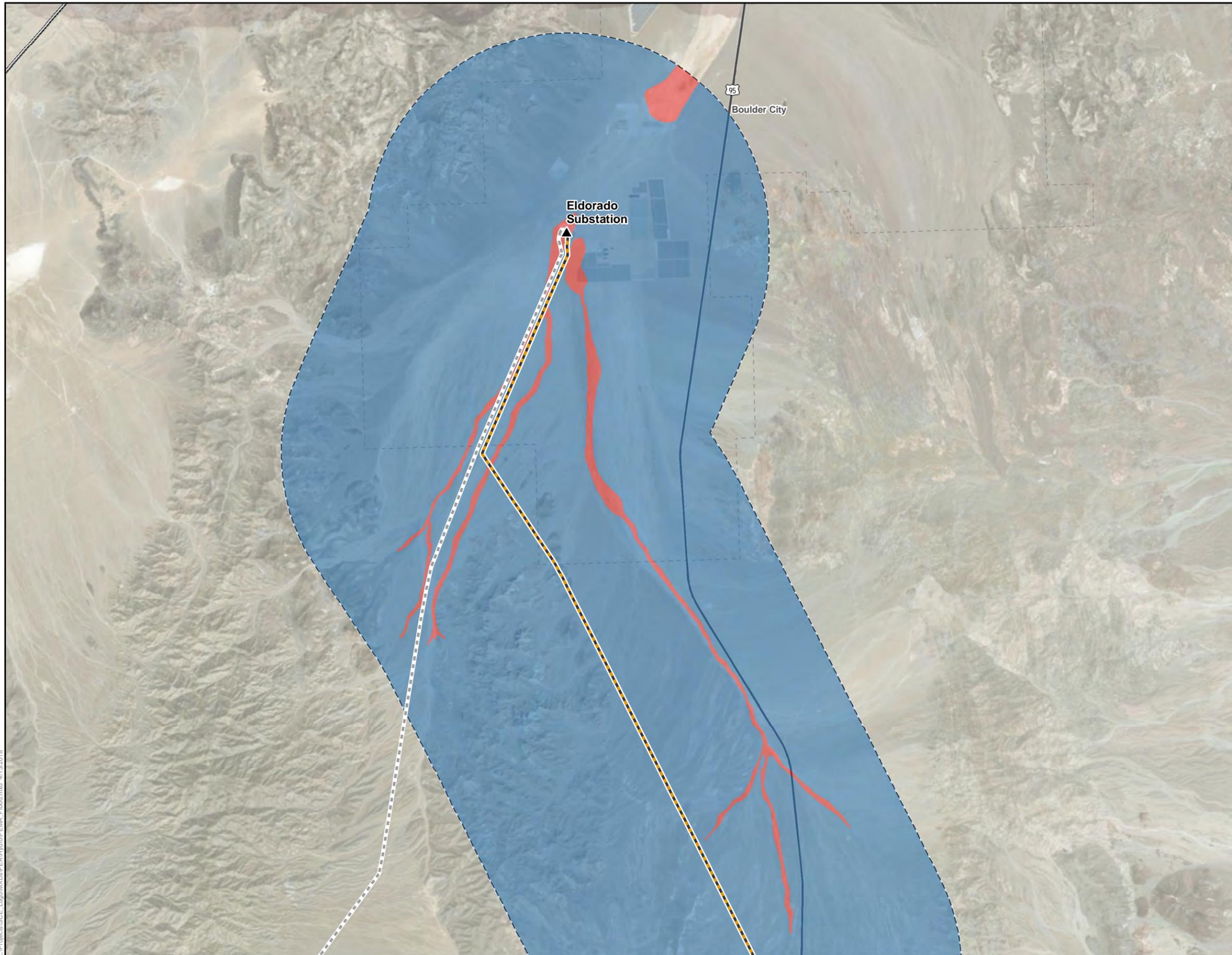
Source: California Geological Survey, 2015;
Insignia, 2018; SCE, 2018; U.S. Geological Survey, 2015

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**Figure 4.9-2:
FEMA Flood Hazard Zones
Map 5 of 5**

**Eldorado-Lugo-Mohave
Series Capacitor Project**

- ▲ Existing Substation
- Eldorado - Mohave 500 kV Transmission Line
- - - Transmission Line not part of Project
- ⬜ 5-Mile Project Buffer
- ⬜ City Boundary
- ⬜ State Boundary
- Interstate
- State Highway/US Highway
- Flood Zone**
- 1-Percent Annual Chance of Flooding
- 500-Year Flood Level
- ▨ Undetermined Flood Hazard



Source: California Geological Survey, 2015;
Insignia, 2018; SCE, 2018; U.S. Geological Survey, 2015

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4.9.1.7 Dam Failure Inundation Areas

The California Governor's Office of Emergency Services (Cal OES) is responsible for the identification of inundation areas for dam failures in California. The Proposed Project is located within an inundation area for dam failure at the Mojave Dam in the City of Victorville, California, approximately 1.6 miles from the existing Lugo-Mohave 500 kV Transmission Line.

4.9.2 Regulatory Setting

Federal, State, and local regulations were reviewed for applicability to the Proposed Project.

4.9.2.1 Federal

In addition to the federal regulations described in the following subsection, federal authorizations would also be required because a majority of the land within the Proposed Project area is under the jurisdiction of the BLM, NPS, BOR, and DoD.

Clean Water Act

The purpose of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." A stated goal of the CWA is to eliminate discharge of pollutants into navigable waters, and is defined in Section 502(7) of the CWA and corresponding case law. Under the CWA, federal facilities have regulatory responsibilities that include preventing water pollution, obtaining discharge permits, meeting applicable water quality standards, developing risk management plans, and maintaining records.

Clean Water Act Section 404

Section 404 of the CWA authorizes the USACE to regulate the discharge of dredged or fill material to waters of the U.S., including wetlands (33 U.S. Code [U.S.C.] §1344). The definition of waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 Code of Federal Regulations [CFR] §328.3[b]). The USACE issues individual, site-specific permits or general permits (i.e., Nationwide Permits [NWP] or Regional General Permits) for such discharges. Projects that involve the discharge of dredge or fill material (e.g., soil, sediment, and other materials into waters of the U.S.) require CWA Section 404 permit authorizations from the USACE. The U.S. Environmental Protection Agency (EPA) has veto authority over the USACE's administration of the Section 404 program and may override a USACE decision with respect to permitting. Under the current USACE-administered NWP program, a project may be authorized under NWP 12 (Utility Line Activities) if it does not result in a loss of more than 0.5 acre of waters of the U.S. Permanent impacts to waters of the U.S. that are greater than 0.5 acre may require an Individual Permit.

Clean Water Act Section 401

Any USACE permit authorized for a proposed project will be invalid unless a project-specific Section 401 Water Quality Certification (WQC) or waiver of water quality is issued for the project. A Section 401 WQC requires a finding that the activities permitted by a federal agency

will not violate water quality standards individually or cumulatively over the term of the issued USACE permit. Within California, the SWRCB and the nine RWQCBs are given the primary responsibility to control water quality. The Proposed Project is under the jurisdiction of the Lahontan and Colorado River RWQCBs; however, when multiple RWQCBs are crossed, the WQC is often issued by the SWRCB. In Nevada, the Nevada Revised Statutes (NRS) and the Nevada Administrative Code regulate surface water within the State and implement the CWA Section 401 WQC. Administration of the Section 401 WQC falls under the authority of the NDEP's Bureau of Water Quality Planning (BWQP). The BWQP may either waive, certify, or deny Section 401 WQCs.

Clean Water Act Section 402

The National Pollutant Discharge Elimination System (NPDES) program was established in 1972 to control discharges of pollutants from defined point sources (33 U.S.C. §1342 and 1251). Both California and Nevada administer the NPDES program within their own state.

Within the State of California, the SWRCB issues both general permits and individual permits under the NPDES permit program. The SWRCB delegates much of its NPDES authority and administration to the nine RWQCBs. The Proposed Project's NPDES permits in California would be under the jurisdiction of the Lahontan and Colorado River RWQCBs. Specifically, SCE would obtain NPDES coverage under the California Construction General Permit (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ).

In California, on September 2, 2009, the SWRCB adopted Order No. 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ) (Construction General Permit), which replaced and combined Water Quality Order 99-08-DWQ and Water Quality Order 2003-0007 (Small Linear Utility General Permit) for the following projects:

- Projects disturbing 1 or more acres of land
- Projects that are part of a common plan of development or sale that disturbs 1 or more acres of land
- Projects that disturb 1 or more acres—but less than 5 acres—of land where the rainfall erosivity waiver does not apply

The new permit became effective July 1, 2010, whereby all existing dischargers and new dischargers are required to obtain coverage under the new permit by submitting Permit Registration Documents.

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which must be prepared before construction begins and kept on site throughout the construction process. In accordance with the Construction General Permit, the SWPPP must include the following:

- Identification of pollutant sources and non-storm water discharges associated with construction activity
- Specifications for best management practices (BMPs) that would be implemented during project construction to minimize the potential for accidental releases and runoff from the

construction areas, including temporary construction yards, pull sites, and other temporary work areas

- Calculations and design details, as well as BMP controls for site run-on
- BMPs used to eliminate or reduce pollutants after construction is complete
- Certification from a Qualified SWPPP Developer

The Construction General Permit requires that the site sediment risk be calculated based on rainfall, soil erodibility, and slope. The receiving water risk must also be calculated based on whether the disturbed areas discharge to a waterbody with a beneficial use of fish spawning, cold freshwater habitat, and fish migration. The result of this analysis determines the combined risk level or type (i.e., 1, 2, or 3), which dictates the monitoring and reporting requirements for the project.

The SWRCB adopted the Statewide General NPDES Permit for Discharges from Utility Vaults & Underground Structures to Surface Waters (General Permit CAG990002) on July 19, 2006. This permit authorizes permittees to have short-term, intermittent discharges of uncontaminated water from vaults and substructures to waters of the U.S. during the operational phase of projects. The new Utility Vault General Permit (2014-0008-DWQ) was recently adopted on October 21, 2014 by the SWRCB and went into effect on July 1, 2015.

In Nevada, the NDEP Bureau of Water Pollution Control (BWPC) issues the Construction Stormwater General Permit (NVR100000) to control and reduce pollution to Waters of the State that meet the definition of waters of the U.S. The State of Nevada requires that projects disturbing 1 or more acres must obtain a Construction Stormwater General Permit. This construction permit is also required for projects that disturb less than 1 acre and are part of a larger common plan for development or sale that would ultimately disturb 1 acre or more. In addition, if NDEP determines that a project less than 1 acre in size will impact receiving waters or tributaries within a 0.25-mile radius of the project, the owner/operator of the project will also be required to obtain a Construction Stormwater General Permit. Nevada's new Construction Stormwater General Permit became effective January 5, 2015, whereby all existing dischargers and new dischargers are required to obtain coverage under the new permit by submitting Permit Registration Documents.

The NDEP adopted the De Minimis Clean Water Discharge General Permit (NVG201000) on July 30, 2012. This permit is for de minimis discharges and may be intermittent or continuous. Its purpose is to provide timely authorization for discharges to Waters of the United States. This general permit establishes Notice of Intent requirements, water quality limitations, prohibitions, and management practices for five separate discharge categories. For each discharge, a separate permit is required. The categories include the following;

- Category 1 – Public water system emergency discharges
- Category 2 – Existing public water system supply discharges
- Category 3 – Well development, testing and maintenance/aquifer testing/water quality testing

- Category 4 – Subsurface water discharges
- Category 5 – Utility vault water discharges

This permit authorizes de minimis clean water discharges to waters of the U.S. pursuant to NRS 445A.465; this regulation prohibits the discharge of pollutants from a point source without a permit.

Title 44, Part 60 of the Code of Federal Regulations

FEMA is responsible for determining flood elevations and floodplain boundaries based on USACE studies. FEMA is also responsible for distributing the FIRMs used in the National Flood Insurance Program (NFIP). These maps identify the locations of special flood hazard areas, including the 100-year floodplain. FEMA allows non-residential development in floodplains; however, construction activities are restricted within flood hazard areas, depending on the potential for flooding within each area. Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations, which enables FEMA to require municipalities that participate in the NFIP to adopt certain flood hazard reduction standards for construction and development in 100-year floodplains.

4.9.2.2 State

California

California Public Utilities Commission General Order 131-D

Pursuant to California Public Utilities Commission (CPUC) General Order (G.O.) 131-D, the CPUC has sole and exclusive jurisdiction over the siting and design of electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities in the State of California. Under the California Environmental Quality Act (CEQA), the CPUC is the Lead Agency with respect to such Proposed Project elements within the State of California. SCE is required to comply with G.O. 131-D and is seeking a Permit to Construct from the CPUC for the Proposed Project.

California Fish and Game Code

Sections 1600 through 1617 of the California Fish and Game Code protects the natural flow, bed, channel, and bank of any river, stream, or lake designated by the CDFW where there is, at any time, any existing fish or wildlife resources, or benefit for the resources. A Lake and Streambed Alteration Agreement (LSAA) is required between the CDFW and an entity proposing to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake. The LSAA is designed to protect the fish and wildlife resources of a river, stream, or lake.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1967, as amended, described in California Water Code Section 13000 et seq. requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect waters of the State. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. Under the Porter-Cologne Water Quality Control Act, a project proposing to discharge waste into

a non-federal water of the State must submit a Report of Waste Discharge to the RWQCB/SWRCB and obtain Waste Discharge Requirements (WDRs), which is issued by the RWQCB/SWRCB. The criteria for the Proposed Project area are contained in the Lahontan and Colorado River Basin Plans.

Lahontan Regional Water Quality Control Board Water Quality Control Basin Plan

The Lahontan RWQCB is responsible for protecting the beneficial uses of surface water and groundwater resources from the Oregon border to the northern Mojave Desert, including all of those in the California east of the Sierra Nevada crest. The Lahontan RWQCB adopted the Basin Plan in 1995. The Basin Plan designates beneficial uses for surface water and groundwater, sets standards and numeric objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's antidegradation policy, and describes implementation programs to protect all waters in the Lahontan region. NPDES permits, WDRs, and waivers are mechanisms used by the RWQCB to control discharges and protect water quality. The Basin Plan is regularly reviewed and updated with amendments, as necessary.

Colorado River Regional Water Quality Control Board Water Quality Control Basin Plan

Portions of the Proposed Project are located within the jurisdictional boundaries of the Colorado River RWQCB. The Colorado River region covers approximately 13 million acres (20,000 square miles) in the southeastern portion of California, including all of Imperial County and portions of San Bernardino, Riverside, and San Diego Counties. Geographically, the region represents only a small portion of the total Colorado River drainage area, which includes portions of Arizona, Nevada, Utah, Wyoming, Colorado, New Mexico, and Mexico. The Colorado River RWQCB adopted its Basin Plan in 1993. As with the Lahontan RWQCB, the purpose of the Basin Plan is to designate beneficial uses for surface water and groundwater, set standards and numeric objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's antidegradation policy, and describe implementation programs to protect all waters in the Colorado River Basin region. The Basin Plan is regularly reviewed and updated with amendments, as necessary.

Nevada

Nevada Revised Statutes Section 704.865

Nevada Revised Statutes (NRS) Section 704.865 provides that "A person, other than a local government, shall not commence to construct a utility facility in the State without first having obtained a permit therefor from the Commission. The replacement of an existing facility with a like facility, as determined by the Commission, does not constitute construction of a utility facility." The Public Utilities Commission of Nevada is the Lead Agency for compliance with the Nevada Utility Environmental Protection Act.

Nevada Revised Statutes 445A

The BWPC's Permits Branch issues and renews discharge permits, which define the quality of the discharge necessary to protect the waters of the State. Waters of the State are defined in NRS 445A.415 as "all waters situated wholly or partly within or bordering upon this State, including but not limited to:

1. All streams, lakes, ponds, impounding reservoirs, marshes, water courses, waterways, wells, springs, irrigation systems and drainage systems; and
2. All bodies or accumulations of water, surface and underground, natural or artificial.”

Depending on the types of regulated discharges, the duration, and the waters that may potentially be impacted, the BWPC may issue individual, general, or temporary permits. Individual permits are issued by the BWPC in consideration of the following types of waters:

- Discharges to surface waterbodies are permitted under the NPDES program pursuant to Section 402 of the federal CWA as amended and the State of Nevada Water Pollution Control Law (NRS 445A.300-445A.730).
- Discharges that may impact subsurface waters, and other waters of the State that are not covered under the NPDES permits, are permitted pursuant to Water Pollution Control Law and referred to as the State’s Water Pollution Control permits.
- Injections of fluids underground for storage or disposal, as authorized pursuant to Section 1422 of the Safe Drinking Water Act and the State Water Pollution Control Law, are permitted under the Underground Injection Control Program.

4.9.2.3 Local

The CPUC has sole and exclusive jurisdiction over the siting and design of the Proposed Project components located in the State of California. Pursuant to CPUC G.O. 131-D, Section XIV.B, “Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC’s jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters.” Consequently, public utilities are directed to consider local regulations and consult with local agencies, but the county and cities’ regulations are not applicable as the county and cities do not have jurisdiction over the Proposed Project. Accordingly, the following discussion of local regulations is provided for informational purposes only. The Proposed Project is subject to local regulations in the State of Nevada.

California

County of San Bernardino

County of San Bernardino 2007 General Plan

The County of San Bernardino 2007 General Plan does not contain any specific goals or policies that are relevant to the Proposed Project.

City of Hesperia

City of Hesperia General Plan 2010

The City of Hesperia General Plan 2010 does not contain any specific goals or policies that are relevant to the Proposed Project.

Nevada

Clark County

Clark County Comprehensive Plan

The Clark County Comprehensive Plan does not contain any specific goals or policies that are relevant to the Proposed Project.

Boulder City

Boulder City Master Plan

The Boulder City Master Plan does not contain any specific goals or policies that are relevant to the Proposed Project.

4.9.3 Significance Criteria

The significance criteria for assessing the impacts to hydrology and water quality come from the CEQA Environmental Checklist.⁵ According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Violate any water quality standards or WDRs
- 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 site 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 site 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 FIRM, or other flood hazard delineation map

⁵ CEQA is a statute that requires State of California and local agencies in California to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. There is no CEQA equivalent for the State of Nevada. Therefore, in the absence of such regulations, the Proposed Project (including components in Nevada) has been evaluated against the CEQA significance criteria. Where specific Nevada environmental regulations exist, a discussion has been included in the impact analysis for the Proposed Project.

- Place structures within a 100-year flood hazard area, which would impede or redirect flood flows
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including 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

4.9.4 Impact Analysis

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

Construction

Less-Than-Significant Impact. Construction of the Proposed Project would comply with the wastewater requirements of the Lahontan and Colorado River RWQCBs, as well as the NDEP. The Proposed Project does not cross any 303(d)-listed waterbodies; thus, the Proposed Project would not contribute to the impairment of any 303(d)-listed waterbodies.

Construction of the Proposed Project would result in ground-disturbing activities that could expose soil to erosion and subsequent sedimentation. Sediment transport from construction work areas to adjacent water resources could contribute to water quality degradation and violate regulatory standards. Sediment can cause turbidity, smother riparian habitat, impair recreational uses, and transport other pollutants. Sedimentation from work areas would primarily occur from vehicles tracking and transporting soil onto adjacent paved surfaces. Sediment transport from work areas could also occur from surface water run-on and runoff, heavy rains, or overwatering during grading or dust-abatement activities. As discussed in Section 4.6, Geology and Soils, the Proposed Project is primarily located on flat and rolling terrain with moderate- to well-drained soils with slight to moderate erosion potential. However, several portions of the Proposed Project are located in the vicinity of mountainous terrain with slopes ranging from 15 to 75 percent. To address the potential for erosion and sedimentation, SCE would conduct a risk assessment prior to construction and prepare Proposed Project-specific SWPPPs in accordance with the Construction General Permit requirements described in Section 4.9.2, Regulatory Setting. The risk assessment would take into consideration the receiving waters, soil type, slopes, construction duration, and rainfall to determine the potential erosion and estimate the volume of sediment that could be discharged from disturbed areas during the Proposed Project. Based on the risk assessment, site-specific BMPs would be identified in the SWPPPs that would ensure water quality standards are met. BMPs to be implemented would include erosion control and stabilization, sediment controls, good housekeeping, waste management and hazardous materials controls, and guidelines for working around waterbodies. Any grading that is to occur in these areas would be stabilized during and following the completion of construction. Implementation of the SWPPPs would ensure that the Proposed Project would meet water quality and waste discharge standards. Therefore, impacts would be less than significant.

Hazardous materials used during construction (e.g., diesel fuel, hydraulic fluid, oils, grease, and concrete) have the potential to be transported by storm water runoff and threaten aquatic life.

These hazardous materials could violate water quality standards if they come in contact with storm water and/or are transported to nearby water resources. The handling, storage, and disposal of potentially hazardous materials are discussed in Section 4.8, Hazards and Hazardous Materials, and specific measures to manage hazardous materials would be addressed in the SWPPPs and in the Hazardous Materials Management Plan (HMMP) prepared for the Proposed Project. As a result, impacts would be less than significant.

During construction, portable toilets would be provided for on-site use by construction workers and would be maintained by a licensed sanitation contractor. Portable toilets would be used in accordance with applicable sanitation regulations established by the Occupational Safety and Health Administration, which generally requires one portable toilet for every 15 workers. The amount of wastewater associated with the portable toilets would be commensurate with the number of workers on site during construction (i.e., 15 to 346 workers). Therefore, the maximum volume of wastewater that would be generated during a single week of construction is estimated to be 1,380 to 1,610 gallons.⁶ The licensed contractor would dispose of the waste at an off-site location and in compliance with standards established by the local regulatory agency. As a result, impacts would be less than significant.

No dewatering is anticipated during construction. However, in the event that groundwater is encountered, 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 treated and discharged in accordance with applicable permits or taken to an off-site facility for disposal.

In summary, the Proposed Project would expose soil to erosion and sedimentation; however, SWPPPs would be prepared and implemented to minimize the potential for adverse effects to water quality from erosion and sedimentation. In addition, hazardous materials would also be used during construction; the handling, storage, and disposal of these materials would be addressed in the SWPPPs and HMMP, thereby reducing impacts to a less-than-significant level. With implementation of the Proposed Project-specific BMPs provided in the SWPPPs and adherence to the Construction General Permits, the Proposed Project is not expected to violate water quality standards or WDRs. Therefore, no wastewater treatment requirements established by the local regulatory agencies would be exceeded, and impacts would be less than significant.

Operation

Less-Than-Significant Impact. Operation and Maintenance (O&M) activities associated with the Proposed Project would be similar to those currently performed by SCE for existing facilities, and generally include repairing conductors, washing or replacing insulators, repairing or replacing other hardware components, repairing or replacing poles and towers, tree trimming, brush and weed control, and access road maintenance, among other things. O&M practices

⁶ Industry standard rates assume that one portable toilet provides adequate restroom facilities for 15 people for one standard workweek. SCE estimates that up to 346 personnel may be required to construct the Proposed Project during the peak of construction. Estimated volumes were calculated assuming that 346 personnel would require at least 23 portable restrooms. The estimated volume range of 1,380 to 1,610 gallons per week was calculated using industry standard portable toilet wastewater capacities of 60 and 70 gallons, respectively.

would also include routine inspections and emergency repair within substations and rights-of-way (ROWs), which would require the use of vehicles and equipment. SCE also inspects the transmission and subtransmission overhead facilities in a manner consistent with CPUC G.O. 165, which requires observation a minimum of once per year, but inspection typically occurs more frequently to ensure system reliability. Following construction of the mid-line series capacitors,⁷ additional O&M activities would consist of monthly and annual inspections, as well as equipment testing and maintenance of emergency generators, ranging from once a year to once every five years. Additional testing, inspections, and maintenance of the building, site, generator, and fuel tank would also be required at the new fiber optic repeater facilities every six months to once a year. Further, O&M activities typically do not impact water quality as ground-disturbing activities are not typically part of O&M. However, if ground disturbance is necessary, BMPs would be implemented to protect water quality. With the implementation of BMPs, the O&M for the new Proposed Project components is not expected to violate water quality standards or WDRs. Therefore, impacts would be less than significant.

4.9.4.2 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 ground water table level?

Construction

Less-Than-Significant Impact. The Proposed Project may use water as a dust suppressant for construction activities as necessary. It is anticipated that approximately 124,200 gallons of water per day would typically be used during construction of the Proposed Project, and approximately 146,000 gallons of water per day would be used during peak construction activities. Water would be obtained from local municipal water sources. SCE would confirm with the water service purveyors that adequate water is available for the Proposed Project prior to construction. In addition, SCE may employ the use of water-conserving features, such as soil binders, along the ROWs and access roads. Reclaimed water may also be used for the Proposed Project, if feasible. Because the amount of water utilized for the Proposed Project is minor compared to the amount of water available from purveyors (as described in Section 4.17, Utilities and Service Systems), the Proposed Project would not substantially deplete groundwater supplies such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The following potential water purveyors would support construction activities near Lugo Substation:

- The City of Hesperia Water District (65-million-gallon capacity)
- The Phelan Piñon Hills Community Service District (1.4-billion-gallon capacity)
- The City of Victorville Water District (1.4-billion-gallon capacity)
- The San Bernardino County Service Area 42 – Oro Grande (approximately 246,000-gallon capacity)

The Golden State Water Company in the City of Barstow (1.7-billion-gallon capacity) would potentially provide water for construction activities conducted in the vicinity of Pisgah Substation. EPCOR Water USA (9.8-million-gallon capacity) would support construction near Mohave Substation. Construction near Eldorado Substation would utilize water from the City of

⁷ The Proposed Project includes construction of two new 500 kV mid-line series capacitors—the proposed Newberry Springs Series Capacitor and Ludlow Series Capacitor.

Henderson Utility Services (97-billion-gallon capacity), Las Vegas Valley Water District, and the Utilities Department of North Las Vegas (11.4-million-gallon capacity). With the water availability provided by local water purveyors, the Proposed Project would have enough resources to prevent a substantial depletion of groundwater supply and recharge; therefore, impacts would be less than significant.

Impervious surfaces created during construction can reduce localized groundwater recharge. The main activity associated with the Proposed Project involves the construction of two new 500 kV mid-line series capacitors—the proposed Newberry Springs Series Capacitor and Ludlow Series Capacitor. Each mid-line series capacitor would be approximately 225 feet wide by 324 feet long, and would occupy approximately 1.8 acres. In addition, the Proposed Project includes the construction of three fiber optic repeater sites, which would be placed within the existing Lugo-Mohave 500 kV Transmission Line ROW. Once construction is completed, each repeater would occupy approximately 0.1 acre of land. The construction of the mid-line series capacitors and the fiber optic repeaters would result in approximately 2.1 acres of impervious surface, which is a relatively small addition in relation to the large surrounding area that is undeveloped and pervious. The approximately 2.1 acres cover less than 0.01 percent of the total acreage of land in the groundwater basins in the Proposed Project area. Due to the size of the basins in relation to the amount of impervious surface at the sites, the additional impervious surface is unlikely to negatively affect groundwater recharge capacity in the vicinity. Consequently, impacts to groundwater recharge would be less than significant.

Operation

No Impact. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. The O&M portion of the Proposed Project would not involve the creation of any additional impervious surfaces. In addition, O&M of the new facilities would not typically utilize large amounts of water, and therefore would not deplete groundwater supplies such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Therefore, no impact would occur.

4.9.4.3 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?

Construction

Less-Than-Significant Impact. Construction of the Proposed Project would involve grading activities required to address two potential overhead clearance discrepancies,⁸ which would result in a small, permanent disturbance to less than 0.1 acre of USACE-, SWRCB-, and NDEP-

⁸ SCE has defined “discrepancies” as potential clearance problems between an energized conductor and its surroundings, such as the structure, another energized conductor on the same structure, a different line, or the ground. SCE has identified approximately 16 discrepancies—two of which will result in impacts to jurisdictional resources—along the Eldorado-Lugo, Eldorado-Mohave, and Lugo-Mohave 500 kV Transmission Lines, where minor grading, relocation, replacement, or modification of transmission, subtransmission, or distribution facilities is needed to address CPUC G.O. 95 and National Electrical Safety Code overhead clearance requirements.

jurisdictional resources and less than 0.1 acre of CDFW-jurisdictional resources. In addition, the Proposed Project would result in a temporary disturbance to approximately 9.2 acres of USACE-, SWRCB-, and NDEP-jurisdictional drainage features and 11.9 acres of CDFW-jurisdictional features. SCE would mitigate for permanent impacts as required by the permitting agencies, and would restore areas that are temporarily impacted to pre-construction conditions.

Construction of the mid-line series capacitors, new tower sites, and two infraction areas may require grading. At the mid-line series capacitor sites, SCE would construct drainage channels and culverts to divert storm water runoff from the capacitor sites and follow the natural drainage patterns in the area. A retention/detention basin would be constructed at each site in order to mitigate increase in runoff as a result of this development. Therefore, potential impacts would be less than significant.

Operation

Less-Than-Significant Impact. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. Drainage patterns established during construction would generally remain unchanged with long-term O&M of the Proposed Project. O&M activities are also not anticipated to affect streams or rivers. If, during the course of maintenance activities, grading or ground disturbance is necessary, appropriate BMPs would be implemented to manage erosion and siltation, and temporary work areas would be restored to pre-construction conditions to avoid increases in runoff or changes in drainage patterns. As such, less-than-significant impacts resulting from erosion or siltation would result.

4.9.4.4 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?

Construction

Less-Than-Significant Impact. As previously described, construction of the mid-line series capacitors and the fiber optic repeater sites would result in a relatively small increase in impervious surfaces compared to the surrounding area, and the Proposed Project would only alter existing drainage patterns to a very small degree at new, aboveground site locations. The overall drainage patterns in the Proposed Project area would remain unchanged; thus, flow directions and rates would not change. SCE would construct drainage channels and culverts around the mid-line series capacitors to divert storm water runoff from the capacitor sites and follow the natural drainage patterns in the area to prevent any flooding on or off site. A retention/detention basin would be constructed at each site in order to mitigate increase in runoff as a result of this development. As previously discussed, the Proposed Project would result in a small, permanent disturbance to less than 0.1 acre of USACE-, SWRCB-, and NDEP-jurisdictional resources and less than 0.1 acre of CDFW-jurisdictional resources. In addition, the Proposed Project would result in a temporary disturbance to approximately 9.2 acres of USACE-, SWRCB-, and NDEP-jurisdictional drainage features and 11.9 acres of CDFW-jurisdictional features. SCE would

mitigate for permanent impacts as required by the permitting agencies, and would restore areas that are temporarily impacted to maintain pre-construction drainage patterns. Thus, drainage patterns would not be significantly altered, and the Proposed Project would not result in an increase in flooding. Therefore, impacts would be less than significant.

Operation

Less-Than-Significant Impact. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. On-site drainage patterns established during construction would generally remain unchanged with long-term O&M of the Proposed Project. However, if grading or ground disturbance is necessary during the course of maintenance activities, temporary work areas would be restored to pre-construction conditions to avoid increases in runoff or changes in drainage patterns that could result in flooding. As such, impacts to on-site or off-site drainage patterns would be less than significant.

4.9.4.5 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?

Construction

Less-Than-Significant Impact. As previously described, the Proposed Project would not substantially increase impervious surfaces resulting in a substantial increase in runoff. At the mid-line series capacitor sites and fiber optic repeater facilities, SCE would construct drainage channels and culverts to divert storm water runoff from the site to return flows to their natural drainage states. The permanent cut and fill slopes for the proposed Newberry Springs Series Capacitor and Ludlow Series Capacitor sites and the permanent cut and fill for the access roads would be stabilized during construction by utilizing BMPs described in the Proposed Project's SWPPPs. The Proposed Project would contribute only minor amounts of polluted runoff during construction, which would be controlled and minimized through the implementation of the erosion and sediment control measures in the SWPPPs. Therefore, impacts would be less than significant.

Operation

Less-Than-Significant Impact. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. O&M activities would not substantially change drainage patterns, provide an increase in polluted runoff, or increase impervious surfaces. Therefore, potential impacts would be less than significant.

4.9.4.6 Would the project otherwise substantially degrade water quality?

Construction and Operation

No Impact. As previously described, the Proposed Project would not otherwise substantially degrade water quality; therefore, no impact would occur.

4.9.4.7 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?

Construction and Operation

No Impact. No housing would be constructed as part of the Proposed Project; therefore, no impact would occur.

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

Construction and Operation

No Impact. As previously described in Section 4.9.1.6, Floodplains, the existing Eldorado and Mohave Substations and portions of the existing Lugo-Mohave 500 kV Transmission Line are located within a 100-year flood hazard area. Modifications within the existing Eldorado and Mohave Substations—including the replacement of the existing mid-line series capacitor banks and installation of new terminal equipment—would replace existing structures. All new structures would be designed to accommodate the flow of floodwaters through or around the facilities, and flow would not be impeded or redirected. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. O&M activities would not impede or redirect flood flows. Therefore, no impact would occur.

4.9.4.9 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?

Construction and Operation

Less-Than-Significant Impact. The Proposed Project would not cross any levees, but would cross a designated dam inundation zone associated with the Mojave Dam. However, because the Proposed Project would have no impacts on the dam and would be designed to withstand the effects of dam failure, the impacts due to flooding as a result of dam or levee failure would be less than significant. In the event of a dam failure, construction workers would evacuate the construction area in accordance with evacuation plans and routes established by the local jurisdictions. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. O&M activities would not result in the increased exposure to risk associated with flooding. Therefore, potential impacts would be less than significant.

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

Construction and Operation

Less-Than-Significant Impact. The Proposed Project would not be located within a tsunami inundation area and would be too far from the ocean to be subject to tsunamis. In addition, the

Proposed Project would not be located within nor span any lakes, pools, or other bounded waterbodies that would create a seiche. The nearest lake to the Proposed Project is Silverwood Lake, which is approximately 5 miles southeast of Lugo Substation. If a seiche were to occur within a nearby lake, the Proposed Project would not likely be affected due to distance and intervening mountainous terrain.

Mudflow typically occurs on moderate to steep slopes where soils become saturated to the point that they cannot hold their own weight and begin to slough downward. As previously described, steeper slopes ranging from 15 to 75 percent are present in the Proposed Project area. However, the majority of the mapped soil types in the Proposed Project area are moderately well-drained, well-drained, somewhat excessively drained, or excessively drained; and they are not likely susceptible to catastrophic slope movement, lateral spreading, subsidence, or collapse. In addition, new structures proposed to be installed during construction would be engineered to withstand landslides or other soil movement. In the event of a seiche or mudflow, construction workers or workers performing O&M activities would evacuate the work area in accordance with evacuation plans and routes established by the local jurisdictions. As a result, impacts resulting from a seiche, tsunami, or mudflow would be less than significant.

4.9.5 Applicant-Proposed Measures

With implementation of BMPs and adherence to the Construction General Permit, SWPPPs, and HMMP, impacts would be less than significant and no additional measures are proposed.

4.9.6 Mid-Line Series Capacitor Site Alternatives

Consistent with Section 15126.6(d) of the CEQA Guidelines, this Proponent's Environmental Assessment analyzes alternatives to the Proposed Project. Section 5.2, Description of Project Alternatives and Impact Analysis identifies and compares the construction and O&M of SCE's Proposed Project with its alternatives, including alternatives that did not meet key Proposed Project objectives and were not carried forward. The alternatives retained for a full evaluation (i.e., the alternative Newberry Springs Series Capacitor and Ludlow Series Capacitor sites) are analyzed in relation to hydrology in the following discussion.

The alternative Newberry Springs Series Capacitor site is approximately 3.1 acres and is located approximately 930 feet to the northeast of its proposed location along the Eldorado-Lugo 500 kV Transmission Line. The alternative Ludlow Series Capacitor site is approximately 3.1 acres and is located approximately 970 feet to the southwest of its proposed location along the Lugo-Mohave 500 kV Transmission Line.

Construction of the proposed Newberry Springs Series Capacitor would not result in permanent impacts to jurisdictional waters. The alternative site would result in less than 0.1 acre of permanent impacts to jurisdictional waters; thus, construction and O&M at the alternative mid-line series capacitor site would result in greater potential impacts than construction and O&M at the proposed mid-line series capacitor site. The proposed Newberry Springs Series Capacitor site is located near the existing Pisgah Substation and within the Lavic Valley Groundwater Basin. Both sites are subject to erosion due to the presence of linear water features. However, USGS topographical data indicate that the alternative site is located in an area that may have a higher runoff potential. Based on the higher risk of runoff associated with the alternative Newberry

Springs Series Capacitor site, construction and O&M at the proposed mid-line series capacitor site would result in less potential impacts than construction and O&M at the alternative mid-line series capacitor site.

The existing hydrologic features in the vicinity of the alternative Ludlow Series Capacitor site are generally the same as the proposed mid-line series capacitor site. Neither the alternative nor the proposed Ludlow Series Capacitor sites would impact jurisdictional resources. The Ludlow Series Capacitor site is located near the existing Pisgah Substation and within the Lavic Valley Groundwater Basin. However, the presence of volcanic rock underlying the alternative site presents a potential constructability concern. Therefore, construction and O&M at the proposed mid-line series capacitor site would result in slightly fewer potential impacts than construction and O&M at the alternative mid-line series capacitor site.

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TABLE OF CONTENTS

4.10 LAND USE AND PLANNING 4.10-1
4.10.1 Environmental Setting 4.10-1
4.10.2 Regulatory Setting 4.10-6
4.10.3 Significance Criteria 4.10-17
4.10.4 Impact Analysis 4.10-17
4.10.5 Applicant-Proposed Measures 4.10-22
4.10.6 Mid-Line Series Capacitor Site Alternatives 4.10-22
4.10.7 References..... 4.10-23

LIST OF TABLES

Table 4.10-1: Existing Land Uses Crossed by the Proposed Project..... 4.10-2
Table 4.10-2: Land Use Designations Crossed by the Proposed Project..... 4.10-11
Table 4.10-3: Zoning Designations Crossed by the Proposed Project..... 4.10-14

LIST OF ATTACHMENTS

- Attachment 4.10-A: Existing Land Uses Within 1 Mile of the Proposed Project
- Attachment 4.10-B: Relevant Land Use Plans and Policies Consistency Analysis
- Attachment 4.10-C: General Plan Designations Within 1 Mile of the Proposed Project
- Attachment 4.10-D: Zoning Designations Within 1 Mile of the Proposed Project

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4.10 Land Use and Planning

This section describes the land use and planning resources in the area of the Eldorado-Lugo-Mohave Series Capacitor Project (Proposed Project¹), as well as the potential impacts and alternatives.

The land use analysis involved a review of various land use plans, policies, and regulations—including general plans, municipal codes, and zoning maps—for the County of San Bernardino and the City of Hesperia in California, and for Clark County and the City of Boulder City in Nevada. The land use analysis also involved a study of aerial imagery of the Proposed Project area.

4.10.1 Environmental Setting

The Proposed Project is located in California and Nevada, within the Mojave Basin and Range (Mojave). Federal lands constitute a majority of the land area in the Mojave, including lands under the jurisdiction of the Bureau of Land Management (BLM), National Park Service (NPS), Bureau of Reclamation (BOR), and Department of Defense (DoD). The Proposed Project would modify three existing transmission lines that extend northeast from Lugo Substation (located in San Bernardino County, California) to Eldorado Substation (located in the City of Boulder City, Nevada) and Mohave Substation (located in Clark County, Nevada), and from Mohave Substation northwest to Eldorado Substation. Portions of the Proposed Project would also cross the City of Hesperia, California, the unincorporated community of Lucerne Valley in California, as well as the unincorporated communities of Searchlight and Laughlin in Nevada.

4.10.1.1 Existing Land Uses

The Proposed Project area is characterized by mostly undeveloped and open lands, utilities and infrastructure, and some low-density residential land uses in San Bernardino and Clark Counties. Attachment 4.10-A: Existing Land Uses Within 1 Mile of the Proposed Project depicts existing land uses within 1 mile of the Proposed Project. Table 4.10-1: Existing Land Uses Crossed by the Proposed Project summarizes the existing land uses crossed by the Proposed Project. The following subsections provide greater detail regarding existing land uses.

¹ The term “Proposed Project” is inclusive of all components of the Eldorado-Lugo-Mohave Series Capacitor Project. Where the discussion in this section focuses on a particular component, that component is called out by its individual work area (e.g., “Ludlow Series Capacitor”).

Table 4.10-1: Existing Land Uses Crossed by the Proposed Project

Land Use	Approximate Distance Crossed by the Proposed Project (Miles)
Public/Institutional	0.6
Residential	0.3
Infrastructure ²	15.7
Undeveloped/Vacant	18.0
Open Space/Resource Conservation ³	201.8
Military	1.1
Total	237.5

Sources: Armantrout (2015), City of Hesperia (2015b), Clark County (2015c), County of San Bernardino (2007a, 2007b), Google (2014)

Federal

Bureau of Land Management

The BLM oversees management of the National Landscape Conservation System, which contains federally recognized conservation lands, such as the following:

- National monuments
- National conservation areas
- Wilderness areas
- Wilderness study areas
- Wild and scenic rivers
- National scenic and historic trails
- Conservation lands of the California desert

In addition, the BLM designates Areas of Critical Environmental Concern (ACECs) as special management areas to protect significant resources. The following subsections describe the BLM-managed land use areas within 1 mile of the Proposed Project.

California Desert District

The California Desert Conservation Area (CDCA) was created by Congress in 1976, and approximately 10.4 million acres of the 26-million-acre preserve are managed by the California Desert District of the BLM. The California Desert District is the southernmost BLM district of California, encompassing approximately 11 million acres. The California Desert District is

² Infrastructure includes roadways, railroads, rights-of-way (ROWs), and utilities.

³ Open Space/Resource Conservation includes open access, open space, recreation, and resource management land, including land managed by the BLM, NPS, California State Lands Commission (CSLC), BOR, and Nevada State Parks.

divided into five resource areas, which are governed by field offices in the cities of Ridgecrest, Palm Springs, El Centro, Barstow, and Needles.

The following four BLM Wilderness Areas are within 1 mile of the Proposed Project and within the California Desert District:

- Dead Mountains Wilderness, located adjacent to and south of the existing Lugo-Mohave 500 kilovolt (kV) Transmission Line
- Rodman Mountains Wilderness, located adjacent and north of the existing Lugo-Mohave 500 kV Transmission Line
- Kelso Dunes Wilderness, located approximately less than 1 mile north of the existing Eldorado-Lugo 500 kV Transmission Line and less than 1 mile north of the existing Lugo-Mohave 500 kV Transmission Line
- Bristol Mountains Wilderness, located adjacent and south of the existing Lugo-Mohave 500 kV Transmission Line

Mojave Trails National Monument

The Mojave Trails National Monument is a national monument located between Joshua Tree National Park and the Mojave National Preserve along Route 66 in San Bernardino County. The Mojave Trails National Monument is managed by the BLM and covers approximately 965,000 acres. Approximately 25.3 miles of the existing Eldorado-Lugo 500 kV Transmission Line and approximately 28.3 miles of the existing Lugo-Mohave 500 kV Transmission Line span the Mojave Trails National Monument.

Areas of Critical Environmental Concern

Piute/Eldorado Area of Critical Environmental Concern

The Piute/Eldorado ACEC is located in Nevada, and is managed by the Las Vegas Field Office of the BLM. The Piute/Eldorado ACEC covers approximately 328,242 acres and contains approximately 286,541 acres of designated desert tortoise critical habitat pursuant to the federal Endangered Species Act (ESA). Approximately 41.2 miles of the existing Eldorado-Mohave 500 kV Transmission Line are located within the Piute/Eldorado ACEC. Designated desert tortoise critical habitat is discussed further in Section 4.4, Biological Resources.

Pisgah Area of Critical Environmental Concern

The Pisgah ACEC is located east of Pisgah Substation and is crossed by the existing Lugo-Mohave 500 kV Transmission Line in San Bernardino County. This ACEC is managed by the BLM's Barstow Field Office and covers approximately 19,754 acres. Approximately 6.7 miles of the existing Lugo-Mohave 500 kV Transmission Line are located within the Pisgah ACEC.

Dead Mountains Area of Critical Environmental Concern

The Dead Mountains ACEC is located within Dead Mountains Wilderness in San Bernardino County. It is managed by the BLM's Needles Field Office and covers approximately 28,559

acres. Approximately 0.6 mile of the existing Lugo-Mohave 500 kV Transmission Line is located within the Dead Mountains ACEC.

Piute-Fenner Desert Wildlife Management Area of Critical Environmental Concern

The Piute-Fenner Desert Wildlife Management Area (DWMA) ACEC is located in San Bernardino County, is managed by the BLM's Needles Field Office, and covers approximately 174,148 acres. Approximately 15.3 miles of the existing Lugo-Mohave 500 kV Transmission Line are located within the Piute-Fenner DWMA ACEC.

Ord-Rodman Desert Wildlife Management Area of Critical Environmental Concern

The Ord-Rodman DWMA ACEC is located in San Bernardino County, is managed by the BLM's Barstow Field Office, and covers approximately 265,770 acres. Approximately 17 miles of the existing Lugo-Mohave 500 kV Transmission Line are located within the Ord-Rodman DWMA ACEC.

Juniper Flats Area of Critical Environmental Concern

The Juniper Flats ACEC is located in San Bernardino County, is managed by the BLM's Barstow Field Office, and covers approximately 2,387 acres. Approximately 0.3 mile of the existing Lugo-Mohave 500 kV Transmission Line is located within the Juniper Flats ACEC.

Highland Range Crucial Bighorn Habitat

Highland Range Crucial Bighorn Habitat is located west and adjacent to the existing Eldorado-Mohave 500 kV Transmission Line and southwest of Boulder City and covers approximately 8,880 acres. Highland Range Crucial Bighorn Habitat area was set aside for the protection and propagation of desert bighorn sheep and is managed by the Las Vegas Field Office of the BLM.

United States National Park Service

Mojave National Preserve

The California Desert Protection Act established the Mojave National Preserve, which covers approximately 1.6 million acres. Approximately 49.3 miles of the existing Lugo-Mohave 500 kV Transmission Line are located within the Mojave National Preserve. Providence Mountains State Recreation Area, the University of California Natural Reserve System's Sweeney Granite Mountains Desert Research Center, and California State University's Desert Studies Center at Soda Springs are also within the preserve's boundaries. Additionally, approximately 700,000 acres of the Mojave National Preserve is designated wilderness, including the Mojave Wilderness.

United States Bureau of Reclamation

Approximately 0.6 mile of the existing Lugo-Mohave 500 kV Transmission Line is located west of the Colorado River and within land managed by the BOR. The Lower Colorado Region of the BOR manages water and related resources in southern Nevada, Southern California, most of Arizona, a small section of southwest Utah, and a small section of west-central New Mexico. The Lower Colorado Region headquarters is located in the City of Boulder City, Nevada. No BOR facilities are located within 1 mile of the Proposed Project.

United States Department of Defense

Marine Corps Air Ground Combat Center Twentynine Palms

Approximately 1.1 miles of the existing Lugo-Mohave 500 kV Transmission Line are located within land managed by the DoD and adjacent to Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms. MCAGCC Twentynine Palms is the largest military training facility in the United States (U.S.) and is managed by the DoD. MCAGCC Twentynine Palms contains facilities and services for resident organizations, marines, sailors, and their families. It also has exclusive military use areas, as well as a shared use area that allows public access when training exercises are not being conducted.

United States Forest Service

San Bernardino National Forest

The San Bernardino National Forest is located in San Bernardino County, California, and it offers bicycling, camping, fishing, hiking, hunting, picnicking, and winter sports. There are eight designated wilderness areas in the San Bernardino National Forest. It is located approximately 0.8 mile south the Lugo-Mohave 500 kV Transmission Line.

State

California

California State Lands Commission

The existing Eldorado-Lugo 500 kV Transmission Line and the existing Lugo-Mohave 500 kV Transmission Line cross undeveloped small parcels of land managed by the CSLC, totaling approximately 5.3 miles. The CSLC was created to protect and manage natural and cultural resources and public access on certain public lands in California. The public lands under the jurisdiction of the CSLC are divided into two types: sovereign and proprietary lands.

Nevada

Department of Conservation and Natural Resources

The existing Eldorado-Mohave 500 kV Transmission Line and the existing Lugo-Mohave 500 kV Transmission Line cross approximately 0.7 mile of Big Bend of the Colorado State Recreation Area, managed by Nevada State Parks.

Local

California

San Bernardino County

The unincorporated area of San Bernardino County in the vicinity of the Proposed Project is largely managed by the BLM, NPS, and DoD, as well as the community of Lucerne Valley.⁴ The

⁴ A Draft Lucerne Valley Community Plan is being prepared and has not been released at the time of this report. The community plan process is not anticipated to be completed until 2018; however, the Proposed Project crosses the proposed community boundary for the Lucerne Valley Community Plan.

remaining area of San Bernardino County that is in the vicinity of the existing Eldorado-Lugo 500 kV Transmission Line and the existing Lugo-Mohave 500 kV Transmission Line has land uses that are mostly undeveloped and open lands, with some low-density residential and agricultural uses.

City of Hesperia

The City of Hesperia is bordered to the west by unincorporated areas of San Bernardino County, to the north by the City of Victorville, to the east by the Town of Apple Valley, and to the south by unincorporated areas of San Bernardino County and the San Bernardino National Forest. The City of Hesperia contains a mix of residential, agricultural, industrial, and commercial uses. Lugo Substation is located within the community of Oak Hills, which is in the western portion of the City of Hesperia's sphere of influence, and the area surrounding the existing Lugo Substation to the north is mostly residential development. The area surrounding the existing Lugo-Mohave 500 kV Transmission Line is mostly undeveloped, with residential uses and public facilities to the north.

Nevada

Clark County

The eastern portion of the Proposed Project is located in southern Clark County, Nevada in undeveloped open lands. The existing Eldorado-Mohave 500 kV Transmission Line and the existing Lugo-Mohave 500 kV Transmission Line traverse Clark County in mostly BLM-managed land and the unincorporated communities of Searchlight and Laughlin. Clark County is bordered to the north by Lincoln County, Nevada; to the south and east by Mohave County, Arizona; and to the west by San Bernardino County.

City of Boulder City

The City of Boulder City is surrounded by unincorporated Clark County and the City of Henderson to the northwest. The existing Eldorado-Mohave 500 kV Transmission Line and Eldorado Substation are located in the southern half of the City of Boulder City in the Eldorado Valley area; and the land uses in the vicinity of the Proposed Project are energy resources and open space. The northern portion of Boulder City is comprised of residential, commercial, and open space land uses.

4.10.2 Regulatory Setting

Federal, State, and local regulations were reviewed for applicability to the Proposed Project. The following subsections describe regulations regarding land use and planning that are relevant to the Proposed Project.

4.10.2.1 Federal

Components of the Proposed Project are located within the NPS-managed Mojave National Preserve; BLM-managed wilderness areas, ACECs, and Highland Range Crucial Bighorn Habitat; the DoD-managed MCAGCC Twentynine Palms; and land managed by the BOR. Applicable federal land use policies or regulations are included in the subsections that follow. Attachment 4.10-B: Relevant Land Use Plans and Policies Consistency Analysis summarizes the

Proposed Project's consistency with relevant goals and policies. In addition to the federal regulations described in the following subsections, federal authorizations including a ROW grant from BLM and a Special Use Permit from the NPS, would also be required.

National Environmental Policy Act

The National Environmental Policy Act (NEPA) was enacted in 1969 to establish a national policy for public review of federal actions. Codified under Title 42, Sections 4321 to 4347 of the U.S. Code, federal agencies are required to consider the environmental impact of their actions, including the issuance of discretionary permits. Because the Proposed Project would require several federal permits for work within federal lands and for potential impacts to federal jurisdictional resources, the federal agencies issuing the permits must comply with NEPA by conducting the appropriate environmental review of the Proposed Project.

Federal Land Policy and Management Act

The Federal Land Policy and Management Act (FLPMA) provides a regulatory framework for management of BLM land and its use of resources. An important aspect of the FLPMA is that it supports multiple uses on public lands. Also, under the FLPMA, the BLM regulates ROWs for electrical power generation, transmission and distribution systems, systems for the transmission and reception of electronic signals and other means of communication, pipelines (other than oil and gas), railroads, highways, and other facilities or systems developed in the interest of the public. The FLPMA also designated the CDCA; of the approximately 26 million acres located in Southern California, approximately 10.4 million acres are administered by the BLM.

California Desert Protection Act of 1994

The California Desert Protection Act of 1994 is a federal law that established Death Valley National Park, Joshua Tree National Park, and the Mojave National Preserve in California. Section 511 Utility Rights of Way states that Southern California Edison Company (SCE) activities within the ROWs located within the Mojave National Preserve are to remain valid, including upgrading the existing electrical transmission line for the purpose of increasing capacity. Section 511 also states that in the Eldorado-Lugo kV Transmission Line and Mohave-Lugo 500 kV Transmission Line ROWs, no additional land shall be issued, granted, or permitted for such an upgrade unless the addition would reduce the impacts to Mojave National Preserve resources.

California Desert Conservation Area Plan

The CDCA Plan establishes goals for the protection and use of the CDCA and a framework for managing its various resources. The CDCA Plan contains an Energy Production and Utility Corridors Element, in which the BLM encourages applicants for utility ROWs to use designated corridors. Public lands in the CDCA under BLM management have been categorized into multiple-use classes and contain guidelines for transmission facilities and communication sites. As part of Phase I of the Desert Renewable Energy Conservation Plan (DRECP), the BLM adopted an amendment to the CDCA Plan—the Land Use Plan Amendment (LUPA) to the CDCA Plan and Bishop and Bakersfield Resource Management Plan, which is discussed further in the subsection that follows.

Desert Renewable Energy Conservation Plan

The DRECP is a collaborative effort between the California Energy Commission (CEC), California Department of Fish and Wildlife (CDFW), BLM, and U.S. Fish and Wildlife Service (USFWS) to advance federal and state natural resource conservation goals and other federal land management goals; meet the requirements of the federal Endangered Species Act, California Endangered Species Act, Natural Community Conservation Planning Act, and FLPMA; and facilitate the timely and streamlined permitting of renewable energy projects in the Mojave and Colorado/Sonoran desert regions of Southern California. The DRECP covers approximately 22.5 million acres in the desert regions of Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego counties. The DRECP is being prepared in two phases. Phase I consists of the BLM LUPA to the CDCA Plan and Bishop and Bakersfield Resource Management Plan. Phase II will consist of a General Conservation Plan for approximately 5.5 million acres of non-federal land and a Conceptual Plan-Wide Natural Community Conservation Plan (NCCP) that encompasses the entire DRECP plan area. The BLM LUPA to the CDCA is discussed further in the subsection that follows. The NCCP component is discussed in Section 4.10.2.4, Natural Community Conservation Plans and Habitat Conservation Plans.

Bureau of Land Management Land Use Plan Amendment

The BLM LUPA establishes management direction for the permitting of renewable energy and transmission facilities on approximately 10 million acres of BLM-managed lands in the DRECP plan area. The BLM LUPA amends the CDCA Plan and the Bakersfield and Bishop Resource Management Plans. The purpose of the LUPA is to conserve biological, environmental, cultural, recreation, social and scenic resources; respond to federal renewable energy goals and policies, including State-level renewable energy targets; and comply with the FLPMA. The BLM LUPA designates land use allocations and prescribes conservation management actions. Relevant goals and objectives to the Proposed Project are discussed in Attachment 4.10-B: Relevant Land Use Plans and Policies Consistency Analysis. The BLM signed the Record of Decision (ROD) approving its LUPA on September 14, 2016, completing Phase I of the DRECP.

West Mojave Route Network Project and Plan Amendment/West Mojave Plan (Proposed)

The West Mojave (WEMO) Route Network Project and Plan Amendment applies to the western area of the Mojave Desert, which covers approximately 9.3 million acres. The WEMO Route Network Project and Plan Amendment supplements the 2006 West Mojave Plan/Amendment to the CDCA Plan. The 2006 West Mojave Plan/Amendment was a proposed Habitat Conservation Plan (HCP) and CDCA Plan Amendment.⁵ The goals of the WEMO Route Network Project and Plan Amendment are to identify a travel and transportation management strategy, implementation framework, and access network for public land users, and identify livestock grazing alternatives. The public comment period for the Final Draft of the Programmatic Agreement to the WEMO Route Network Project and Plan Amendment closed on January 25, 2016.

⁵ A ROD was issued in March 2006, approving the West Mojave Plan/Amendment. The ROD refers solely to BLM's amendment of the CDCA Plan. The HCP component of the West Mojave Plan was never approved by State and local agencies.

Bureau of Reclamation Manual: Directives and Standards

Directives and Standards provide policies for BOR-managed lands; however, local offices may implement these standards at their discretion. Land Use Authorizations Directives and Standards provides procedures for issuing use authorization documents for use of BOR lands.

California Historic Route 66: Needles to Barstow Corridor Management Plan (Proposed)

The California Historic Route 66: Needles to Barstow Corridor Management Plan (CMP) is currently in the process of being developed to secure a nomination for the route as a National Scenic Byway. A final draft was released in 2015, and once approved, it will focus on new development; the CMP will not propose changes to regulation of Operation and Maintenance (O&M) activities for existing utility facilities. While there is guidance for new transmission lines and towers, the CMP does not contain policies that are relevant to the Proposed Project.

Las Vegas and Pahrump Field Offices Draft Resource Management Plan/Environmental Impact Statement (Proposed)

The Las Vegas and Pahrump Field Offices Draft Resource Management Plan/Environmental Impact Statement was released in the fall of 2014 as a revision to the 1998 Las Vegas Resource Management Plan, which provides management direction on resource issues for all public lands managed by the Las Vegas Field Office within Clark County. The public review and comment period closed on March 9, 2015 and the Proposed Resource Management Plan/Final Environmental Impact Statement is anticipated to be released in the summer of 2016.

Clark County Conservation of Public Land and Natural Resources Act of 2002

The Clark County Conservation of Public Land and Natural Resources Act of 2002 establishes wilderness areas, promotes conservation, improves public land, and provides for high-quality development in Clark County, Nevada. It established Bridge Canyon Wilderness, located within the Lake Mead National Recreation Area, as part of the National Wilderness Preservation System. The Clark County Conservation of Public Land and Natural Resources Act of 2002 does not contain any specific goals or policies that are relevant to the Proposed Project.

Mojave General Management Plan

The Mojave General Management Plan—developed in 2002 and implemented by the NPS—is the management strategy for the Mojave National Preserve and it includes appropriate activities within the Mojave National Preserve and resource protection strategies. The Mojave General Management Plan does not contain any specific goals or policies that are relevant to the Proposed Project.

4.10.2.2 State

California

California Public Utilities Commission General Order 131-D

Pursuant to California Public Utilities Commission (CPUC) General Order (G.O.) 131-D, the CPUC has sole and exclusive jurisdiction over the siting and design of electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities in the

State of California. Under California Environmental Quality Act (CEQA), the CPUC is the Lead Agency with respect to such Proposed Project elements within the State of California. SCE is required to comply with G.O. 131-D and is seeking a Permit to Construct from the CPUC for the Proposed Project.

Natural Community Conservation Planning Act of 1991

The Natural Community Conservation Planning Act of 1991 is designed to conserve natural communities at the ecosystem scale within California while accommodating compatible land uses.

Nevada

Nevada Revised Statutes Section 704.865

Nevada Revised Statutes Section 704.865 provides that “A person, other than a local government, shall not commence to construct a utility facility in the State without first having obtained a permit therefor from the Commission. The replacement of an existing facility with a like facility, as determined by the Commission, does not constitute construction of a utility facility.” The Public Utilities Commission of Nevada is the Lead Agency for compliance with the Nevada Utility Environmental Protection Act.

4.10.2.3 Local

The CPUC has sole and exclusive jurisdiction over the siting and design of Proposed Project components located in the State of California. Pursuant to CPUC G.O. 131-D, Section XIV.B, “Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC’s jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters.” Consequently, public utilities are directed to consider local regulations and consult with local agencies, but the county and cities’ regulations are not applicable as the county and cities do not have jurisdiction over the Proposed Project. Accordingly, the following discussion of local land use regulations is provided for informational purposes only. The Proposed Project is subject to local regulations in the State of Nevada.

Attachment 4.10-B: Relevant Land Use Plans and Policies Consistency Analysis summarizes the Proposed Project’s consistency with relevant local land use goals and policies.

California

County of San Bernardino

County of San Bernardino 2007 General Plan

The Land Use Element of the County of San Bernardino 2007 General Plan functions as a guide as to the ultimate pattern of development for the County of San Bernardino. The Proposed Project is located within the Desert Planning Region of San Bernardino County. Attachment 4.10-C: General Plan Designations Within 1 Mile of the Proposed Project depicts city and county general plan designations for the Proposed Project area, which are summarized in Table 4.10-2: Land Use Designations Crossed by the Proposed Project.

Table 4.10-2: Land Use Designations Crossed by the Proposed Project

Jurisdiction	Land Use Designation	Approximate Distance Crossed by the Proposed Project (Miles)	Proposed Project Component
County of San Bernardino	Agricultural and Resource Management (Apple Valley/Resource Conservation [AV/RC], Floodway [FW], Floodway-Agriculture Preserve [FW-AP], Lucerne Valley/Floodway [LV/FW], Lucerne Valley/Resource Conservation [LV/RC], Resource Conservation [RC], Lucerne Valley/Agriculture [LV/AG], and Lucerne Valley/Agriculture-40 Acre Minimum [LV/AG-40])	50.5	Eldorado-Lugo 500 kV Transmission Line/ Lugo-Mohave 500 kV Transmission Line ⁶
		99.8	Lugo-Mohave 500 kV Transmission Line
	2.7	Eldorado-Lugo 500 kV Transmission Line	
	Special Purpose (Oak Hills/Institutional [OH-IN])	1.0	Eldorado-Lugo 500 kV Transmission Line/ Lugo-Mohave 500 kV Transmission Line ⁶
	Residential (Apple Valley/Rural Living-20 Acre Minimum [AV/RL-20], Apple Valley/Rural Living-5 Acre Minimum [AV/RL-5], Lucerne Valley/Rural Living [LV/RL], Lucerne Valley/Rural Living-5 Acre Minimum [LV/RL-5], Rural Living [RL], Rural Living-10 Acre Minimum-Agriculture Preserve [RL-10-AP], Rural Living-20 Acre Minimum [RL-20], Rural Living-5 Acre Minimum [RL-5])	12.4	Eldorado-Lugo 500 kV Transmission Line/ Lugo-Mohave 500 kV Transmission Line ⁶
		0.2	Eldorado-Lugo 500 kV Transmission Line

⁶ The existing Eldorado-Lugo 500 kV Transmission Line and the existing Lugo-Mohave 500 kV Transmission Line are parallel in the same ROW for approximately 66.5 miles between Lugo Substation and south of Pisgah Substation.

Jurisdiction	Land Use Designation	Approximate Distance Crossed by the Proposed Project (Miles)	Proposed Project Component
City of Hesperia	Utilities Corridor	2.3	Eldorado-Lugo 500 kV Transmission Line/ Lugo-Mohave 500 kV Transmission Line ⁶
Clark County	Major Development Projects	3.2	Eldorado-Mohave 500 kV Transmission Line
		1.5	Lugo-Mohave 500 kV Transmission Line
	Open Lands	48.6	Eldorado-Mohave 500 kV Transmission Line
		6.9	Lugo-Mohave 500 kV Transmission Line
	Public Facility	0.9	Eldorado-Mohave 500 kV Transmission Line
		0.4	Lugo-Mohave 500 kV Transmission Line
	Residential Agricultural	0.4	Eldorado-Mohave 500 kV Transmission Line
	Residential Suburban	0.1	Eldorado-Mohave 500 kV Transmission Line
		0.2	Lugo-Mohave 500 kV Transmission Line
	Road ROW	0.1	Eldorado-Mohave 500 kV Transmission Line
<0.1		Lugo-Mohave 500 kV Transmission Line	
City of Boulder City	Open Lands (Multi-Species Conservation Easement)	6.3	Eldorado-Mohave 500 kV Transmission Line

Sources: Armantrout (2015), City of Hesperia (2015b), Clark County (2015a), County of San Bernardino (2007a, 2007b)

County of San Bernardino Development Code

Division 2: Land Use Zoning Districts and Allowed Land Uses of the County of San Bernardino's Development Code implements the county's General Plan. Attachment 4.10-A: Existing Land Uses Within 1 Mile of the Proposed Project depicts the zoning designations within the vicinity of the Proposed Project, which are summarized in Table 4.10-3: Zoning Designations Crossed by the Proposed Project.

Table 4.10-3: Zoning Designations Crossed by the Proposed Project

Jurisdiction	Zoning Designation	Approximate Distance Crossed by the Proposed Project (Miles)	Proposed Project Component
County of San Bernardino	Agricultural and Resource Management (AV/RC, FW, FW-AP, LV/FW, LV/RC, RC, LV/AG, and LV/AG-40)	50.5	Eldorado-Lugo 500 kV Transmission Line/ Lugo-Mohave 500 kV Transmission Line ⁶
		99.8	Lugo-Mohave 500 kV Transmission Line
		2.7	Eldorado-Lugo 500 kV Transmission Line
	Special Purpose (OH-IN)	1.0	Eldorado-Lugo 500 kV Transmission Line/ Lugo-Mohave 500 kV Transmission Line ⁶
	Residential (AV/RL-20, AV/RL-5, LV/RL, LV/RL-5, RL, RL-10-AP, RL-20, RL-5)	12.4	Eldorado-Lugo 500 kV Transmission Line/ Lugo-Mohave 500 kV Transmission Line ⁶
		0.2	Eldorado-Lugo 500 kV Transmission Line
City of Hesperia	Utilities Corridor	2.3	Eldorado-Lugo 500 kV Transmission Line/ Lugo-Mohave 500 kV Transmission Line ⁶
Clark County	Special Districts (General Highway Frontage District [H-2])	0.4	Eldorado-Mohave 500 kV Transmission Line
	Manufacturing Districts (Industrial District [M-2])	1.8	Eldorado-Mohave 500 kV Transmission Line
		1.5	Lugo-Mohave 500 kV Transmission Line
	Residential Districts (Rural Open Land District [R-U], Medium Density Residential District [R-2])	50.7	Eldorado-Mohave 500 kV Transmission Line
		8.1	Lugo-Mohave 500 kV Transmission Line
City of Boulder City	Government Open Space/Boulder City Conservation Easement (BCCE)	6.3	Eldorado-Mohave 500 kV Transmission Line

Sources: Armantrout (2015), City of Hesperia (2015b), Clark County (2015a), County of San Bernardino (2007a, 2007b)

City of Hesperia***City of Hesperia General Plan 2010***

The Land Use Element of the City of Hesperia General Plan establishes the foundation for future development in the City of Hesperia. As shown in Attachment 4.10-C: General Plan Designations Within 1 Mile of the Proposed Project and summarized in Table 4.10-2: Land Use Designations Crossed by the Proposed Project, the existing Lugo-Mohave 500 kV Transmission Line is within the Utilities Corridor land use designation in the City of Hesperia, and surrounded by the designated Rancho Las Flores Specific Plan.⁷

City of Hesperia Municipal Code

The Title 16: Development Code of the City of Hesperia's Municipal Code implements the city's General Plan. As shown in Attachment 4.10-D: Zoning Designations Within 1 Mile of the Proposed Project and summarized in Table 4.10-2: Land Use Designations Crossed by the Proposed Project, the existing Lugo-Mohave 500 kV Transmission Line is within land zoned as Utility Corridor.

Nevada***Clark County******Southern Nevada Regional Planning Coalition*****Southern Nevada Strong Regional Plan and Aboveground Utility Plan**

The Southern Nevada Strong Regional Plan is implemented by local jurisdictions and organizations. The purpose of the Southern Nevada Strong Regional Plan is to develop regional support for long-term economic success and stronger communities. The Southern Nevada Strong Regional Plan does not contain any specific policies that are relevant to the Proposed Project.

The Aboveground Utility Plan is intended to be part of the Southern Nevada Strong Regional Plan, and includes policies requiring aboveground utility corridors to be consistent with local jurisdictions and BLM.

Clark County Comprehensive Plan

The Clark County Comprehensive Plan is a policy document for the physical development of unincorporated Clark County. Attachment 4.10-C: General Plan Designations Within 1 Mile of the Proposed Project depicts designated land uses within the vicinity of the Proposed Project, which are summarized in Table 4.10-2: Land Use Designations Crossed by the Proposed Project.

Clark County Municipal Code

Title 30 – Unified Development Code of Clark County's Municipal Code implements the county's Comprehensive Plan. Attachment 4.10-D: Zoning Designations Within 1 Mile of the

⁷ This area is currently under environmental review with the City of Hesperia. The Tapestry Project proposes a Specific Plan Amendment to amend the existing Rancho Las Flores Specific Plan to exclude the approximately 490-acre Las Flores Ranch, and change the name to the Tapestry Specific Plan. However, the Utility Corridor land use and zoning designation would remain the same.

Proposed Project depicts the zoning designations within the vicinity of the Proposed Project, which are summarized in Table 4.10-3: Zoning Designations Crossed by the Proposed Project.

South Clark County Land Use Plan

The South Clark County Land Use Plan is the land use plan for the South Clark County planning and consists of goals, policies, and maps, and identifies development patterns. The South County Land Use Plan is in compliance with the Clark County Comprehensive Plan.

Laughlin Land Use Plan

The Laughlin Land Use Plan is the land use plan for the Laughlin planning area and consists of goals, policies, and maps, and identifies development patterns. The Laughlin Land Use Plan is in compliance with the Clark County Comprehensive Plan.

City of Boulder City

Boulder City Master Plan

The Land Use Element of the Boulder City Master Plan is intended guide the location and design of land uses within the City of Boulder City. As shown in Attachment 4.10-C: General Plan Designations Within 1 Mile of the Proposed Project, Eldorado Substation and the existing Eldorado-Mohave 500 kV Transmission Line are surrounded by the Open Lands (Multi-Species Conservation Easement) land use designation; however, the future and existing land use map displays the Proposed Project alignment as a power line easement.

City of Boulder City Municipal Code

Title 11: Zoning and Subdivisions of the City of Boulder City's municipal code implements the city's Master Plan. Attachment 4.10-D: Zoning Designations Within 1 Mile of the Proposed Project depicts the zoning designations within the vicinity of the Proposed Project, which are summarized in Table 4.10-3: Zoning Designations Crossed by the Proposed Project.

4.10.2.4 Natural Community Conservation Plans and Habitat Conservation Plans

The following NCCPs and HCPs are relevant to the Proposed Project and are discussed further in Section 4.4, Biological Resources:

- DRECP (proposed)
- Clark County Desert Conservation Program: Multiple Species HCP (MSHCP)/BCCE Management Plan

Desert Renewable Energy Conservation Plan (Proposed)

As previously discussed, the DRECP is a multi-phase collaborative planning effort between the BLM, USFWS, CEC, and CDFW. The DRECP includes a Conceptual Plan-Wide NCCP that encompasses the entire DRCEP plan area. The NCCP describes a regional strategy for the protection of plants, animals and their habitats. Approval of the NCCP by the CDFW would allow CDFW to issue take authorizations for covered activities for the take of covered species, including species listed under the California Endangered Species Act as threatened, endangered, or candidate. The Draft DRECP was released in September 2014 for public review and comment.

In March of 2015, the DRECP agencies announced that completion of the DRECP planning effort would follow a phased approach. Phase I concluded in September 2016 with the approval of the BLM LUPA.

Clark County Desert Conservation Program: Multiple Species Habitat Conservation Plan

The Clark County Desert Conservation Program manages federal ESA compliance for Clark County and the City of Boulder City, among others. In doing so, the program implements the MSHCP and associated Section 10(a)(1)(B) incidental take permit to provide a streamlined process for federal ESA compliance by private landowners.

Boulder City Conservation Easement Management Plan

The BCCE Management Plan identifies actions for managing the BCCE, which is a unit of the Clark County reserve system under the MSHCP. The Proposed Project crosses approximately 6.3 miles of land within the BCCE boundary.

4.10.3 Significance Criteria

The significance criteria for assessing the impacts to land use and planning are derived from the CEQA Environmental Checklist.⁸ According to the CEQA Checklist, a project causes a potentially significant impact if it would:

- Physically divide an established community
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to: the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect
- Conflict with any applicable HCP or NCCP

4.10.4 Impact Analysis

4.10.4.1 Would the project physically divide an established community?

Construction

No Impact. The unincorporated area of San Bernardino County in the vicinity of the Proposed Project is largely managed by the BLM, NPS, and DoD. The area surrounding the existing Lugo Substation to the north is designated as developed residential. The existing land uses in the remaining area of San Bernardino County in the vicinity of the Proposed Project are mostly undeveloped and open lands, utilities and infrastructure, and low-density residential and

⁸ CEQA is a statute that requires State of California and local agencies in California to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. There is no CEQA equivalent for the State of Nevada. Therefore, in the absence of such regulations, the Proposed Project (including components in Nevada) has been evaluated against the CEQA significance criteria. Where specific Nevada environmental regulations exist, a discussion has been included in the impact analysis for the Proposed Project.

agricultural uses. Where the Proposed Project is located in southern Clark County, there are mostly undeveloped open lands.

Construction would occur primarily on existing and/or to-be-acquired franchise areas and ROWs, and within existing access roads or new permanent access roads for the mid-line series capacitors.⁹ The nearest residential communities are located approximately 0.7 mile north of existing the Lugo-Mohave 500 kV Transmission Line in San Bernardino County and adjacent to the existing Lugo-Mohave 500 kV Transmission Line in Clark County. However, these neighborhoods would not be physically divided as a result of the Proposed Project because none of the residential neighborhoods would be crossed by the Proposed Project, and the construction activities would occur within existing or to-be-acquired franchise areas and ROWs.

Access to businesses and other uses in the area surrounding the Proposed Project would generally be maintained during the construction phase, and the majority of construction would occur within existing or to-be-acquired franchise areas and ROWs. Additionally, any land and/or road closures would be temporary and short-term, and flaggers and other traffic controls would be utilized, as described in Section 4.16, Transportation and Traffic. These lane and/or road closures are not anticipated to create a division between area land uses or within the larger community as alternative routes would be available. Therefore, no impact would occur as a result of construction of the Proposed Project.

Operation

No Impact. O&M activities associated with the Proposed Project would be similar to those currently performed by SCE for existing facilities, and generally include repairing conductors, washing or replacing insulators, repairing or replacing other hardware components, repairing or replacing poles and towers, tree trimming, brush and weed control, and access road maintenance, among other things. O&M practices would also include routine inspections and emergency repair within substations and ROWs, which would require the use of vehicles and equipment. SCE also inspects the transmission and subtransmission overhead facilities in a manner consistent with CPUC G.O. 165, which requires observation a minimum of once per year, but inspection typically occurs more frequently to ensure system reliability. Following construction of the mid-line series capacitors, additional O&M activities would consist of monthly and annual inspections, as well as equipment testing and maintenance of emergency generators, ranging from once a year to once every five years. Additional testing, inspections, and maintenance of the building, site, generator, and fuel tank would also be required at the new fiber optic repeater facilities every six months to once a year. O&M would occur within existing or to-be-acquired franchise areas and ROWs. Such activities do not currently divide an established community, nor would they be anticipated to do so as a result of the Proposed Project; therefore, no impact would occur as a result of the Proposed Project's O&M activities.

⁹ The Proposed Project includes construction of two new 500 kV mid-line series capacitors—the proposed Newberry Springs Series Capacitor and Ludlow Series Capacitor.

4.10.4.2 Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Construction

No Impact. As previously discussed, the CPUC's jurisdictions over electric power line projects and substations exempts the Proposed Project under G.O. 131-D from local land use regulations. Therefore, local jurisdictions are pre-empted from regulating the Proposed Project pursuant to G.O. 131-D. Construction of the Proposed Project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the Proposed Project. However, the Proposed Project is subject to local regulations in the State of Nevada.

Construction of the Proposed Project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the Proposed Project. A summary of the Proposed Project's consistency with applicable land use plans, policies, and regulations of agencies with jurisdiction over the Proposed Project is provided in Attachment 4.10-B: Relevant Land Use Plans and Policies Consistency Analysis. Consistency with the County of San Bernardino 2007 General Plan, the City of Hesperia General Plan 2010, and the Clark County Comprehensive Plan are specifically discussed. Additionally, Attachment 4.10-B: Relevant Land Use Plans and Policies Consistency Analysis discusses the following:

- The FLPMA
- The California Desert Protection Act of 1994
- The CDCA Plan
- The BLM LUPA to the CDCA Plan and Bishop and Bakersfield Resource Management Plan
- The BOR Reclamation Manual: Directives, and Standards
- The California Historic Route 66: Needles to Barstow CMP
- The Clark County MSHCP
- The BCCE Management Plan
- The Southern Nevada Strong Regional Plan: Aboveground Utility Policies

The Proposed Project would be located largely within existing or to-be-acquired franchise areas and ROWs. In addition, construction of the Proposed Project utilizes existing access roads (measuring approximately 18 feet wide on average) where dedicated public streets are not available, with the exception of new access roads that would be constructed for the mid-line series capacitors. Use of the access roads would not create substantial land use impacts or conflict with existing and proposed land uses. Therefore, no impact would occur as a result of construction of the Proposed Project.

The Proposed Project would cross land managed by the BLM, NPS, BOR, and DoD; however, the Proposed Project would be located largely within existing or to-be-acquired franchise areas and ROWs. As previously discussed, a summary of the Proposed Project's consistency with applicable federal land use plans, policies, and regulations of agencies with jurisdiction over the Proposed Project is provided in Attachment 4.10-B: Relevant Land Use Plans and Policies Consistency Analysis.

Within California, the Proposed Project crosses lands under the jurisdiction of the County of San Bernardino and the City of Hesperia. Within Nevada, the Proposed Project crosses lands under the jurisdiction of Clark County and the City of Boulder City. The following discussion describes the Proposed Project's consistency with applicable land use plans, policies, and regulations from these jurisdictions.

Approximately 177.6 miles of the existing Lugo-Mohave 500 kV Transmission Line is located in unincorporated areas of San Bernardino County, specifically within an existing or to-be-acquired franchise areas and ROWs. The Proposed Project would be consistent with the existing land uses and existing plans for the area. In addition, the Proposed Project would be located within areas designated as Agricultural and Resource Management,¹⁰ Special Purpose, and Residential, as depicted in Table 4.10-3: Zoning Designations Crossed by the Proposed Project. For each of the zones that the Proposed Project crosses, Section 85.02.050 of the County of San Bernardino Development Code states that pipelines, transmission lines, and control station uses are regulated and approved by the CPUC.

Furthermore, these are existing ROWs where the project is located and "Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC's jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters." Consequently, public utilities are directed to consider local regulations and consult with local agencies, but the county and cities' regulations are not applicable as the county and cities do not have jurisdiction over the Proposed Project.

Therefore, the Proposed Project would not conflict with relevant County of San Bernardino land use plans and goals, and no impact would occur.

Approximately 2.7 miles of the existing Lugo-Mohave 500 kV Transmission Line is located in the City of Hesperia. The Proposed Project would be located within an area designated as Utilities Corridor; therefore, the Proposed Project would not conflict with relevant City of Hesperia land use plans and goals, and no impact would occur.

Approximately 72.1 miles of the existing Eldorado-Mohave 500 kV Transmission Line and the existing Lugo-Mohave 500 kV Transmission Line is located in unincorporated Clark County within an existing or to-be-acquired ROWs, and the Proposed Project would be consistent with the existing land uses and existing plans for the area. The Proposed Project would be located within areas designated as Special Districts, Manufacturing Districts, and Residential Districts. The Special District (General Highway Frontage District) establishes a variety of residential, office, and commercial uses. The Manufacturing Districts zone is intended to permit a broad range of industrial development. The Rural Open Land District and Medium Density Residential District are both Residential Districts. The Rural Open Land District provides for very low-density residential use and other appropriate uses of the vast areas of rural land. The Medium Density Residential District provides for the development of compact single-family residential

¹⁰ Section 4.2, Agricultural and Forestry Resources contains discussion on potential impacts associated with land uses and zoning designated as agricultural use.

development, and prohibits the development of incompatible uses that are detrimental to the residential environment.

Public utility structures (including transmission lines that are 34.5 kV or greater) are allowed within each of the designations crossed by the Proposed Project as a conditional use if the structures are located within an aboveground transmission line corridor designated in the Public Facilities and Services Element of the Clark County Comprehensive Plan. Electric substations or other public utility structures located in the Industrial District are permitted only if equipment is not visible from streets or residential development, is screened with enhanced walls and landscaping, and is located at least 200 feet from a residential development. The Proposed Project is located within an existing aboveground transmission line corridor. Additionally, Mohave Substation is existing and is not located within 200 feet of a residential development. While equipment is visible from Bruce Woodbury Drive and Edison Way, there is an existing security fence surrounding Mohave Substation. As discussed in Section 4.1, Aesthetics, the Proposed Project would not have any changes to the general visual character of the area. Therefore, the Proposed Project would not conflict with relevant Clark County land use plans and goals, and no impact would occur.

Approximately 6.5 miles of Eldorado Substation and the existing Eldorado-Mohave 500 kV Transmission Line are located in the City of Boulder City. The Proposed Project would be located within an area designated as Government Open Space/BCCE. The Proposed Project includes the modification and upgrade of existing facilities within an existing BCCE ROW and along an existing transmission line corridor, and all use rights in these corridors are excluded from the BCCE. Therefore, the Proposed Project would not conflict with relevant City of Boulder City land use plans and goals, and no impact would occur.

Operation

No Impact. As previously described, O&M activities associated with the Proposed Project would be similar to those currently performed for the existing facilities, with additional O&M activities associated with the proposed mid-line series capacitors and fiber optic repeater facilities. In addition, the CPUC's jurisdictions over electric power line projects and substations preempts local regulation of the portions of the Proposed Project within California under G.O. 131-D. O&M of the Proposed Project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the Proposed Project. O&M of the Proposed Project would not conflict with existing and proposed nearby residential, open space, recreation, public institutional schools, religious facilities, commercial, retail, and industrial uses because O&M of the Proposed Project would not facilitate any changes or modifications to the existing land uses. Therefore, no impact would occur.

4.10.4.3 Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

Construction and Operation

Less-Than-Significant Impact. Construction and O&M of the Proposed Project would be consistent with the conservation policies established in each of the following conservation plans

that are relevant to the Proposed Project area and are discussed in Attachment 4.10-B: Relevant Land Use Plans and Policies Consistency Analysis:

- DRECP (proposed)
- Clark County Desert Conservation Program: MSHCP/BCCE Management Plan

The Proposed Project is located within the DRECP plan area. As discussed in Section 4.4, Biological Resources, SCE would implement conservation measures and applicant-proposed measures (APMs) to protect listed species and habitat, consistent with the DRECP. Therefore, the Proposed Project would be consistent with the DRECP.

All portions of the Proposed Project within Clark County would occur within the Clark County MSHCP, although SCE's ROWs are within the BLM utility corridor, which is not regulated by the MSHCP. As discussed in Section 4.4, Biological Resources, the Clark County MSHCP provides protection for snags as an ecologically important feature, especially in stands of the *Juniperus californica* woodland alliance, *Psorothamnus spinosus* woodland alliance, *Salix exigua* woodland alliance, and *Yucca brevifolia* woodland alliance. Impacts to each of these alliances are detailed in Section 4.4, Biological Resources. With the implementation of APM-BIO-01, which avoids snags to the extent possible and implements a revegetation plan for all trees removed, conflicts with the Clark County MSHCP would be less than significant.

4.10.5 Applicant-Proposed Measures

Because no impacts to land use or planning would occur as a result of the Proposed Project, no avoidance and minimization measures are proposed.

4.10.6 Mid-Line Series Capacitor Site Alternatives

Consistent with Section 15126.6(d) of the CEQA Guidelines, this Proponent's Environmental Assessment analyzes alternatives to the Proposed Project. Section 5.2, Description of Project Alternatives and Impact Analysis identifies and compares the construction and operation of SCE's Proposed Project with its alternatives, including alternatives that did not meet key Proposed Project objectives and were not carried forward. The alternatives retained for a full evaluation—alternative sites for the Newberry Springs Series Capacitor and the Ludlow Series Capacitor—are analyzed in relation to land use in the following discussion.

The alternative site for the Newberry Springs Series Capacitor is an approximately 3.1-acre site located approximately 930 feet to the northeast of its proposed location along the existing Eldorado-Lugo 500 kV Transmission Line. The alternative site for the Ludlow Series Capacitor is an approximately 3.1-acre site located approximately 970 feet to the southwest of its proposed location along the existing Lugo-Mohave 500 kV Transmission Line.

The proposed sites for the mid-line series capacitors and their respective alternative sites are located in close proximity to one another in mostly undeveloped land, and they are all located within land zoned as Resource Conservation. Neither the proposed nor the alternative mid-line series capacitor sites would physically divide an established community or conflict with an HCP or an NCCP. Similar to the proposed mid-line series capacitor sites, the alternative mid-line series capacitor sites would not impact land use.

4.10.7 References

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