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CHAPTER 3 – PROJECT DESCRIPTION

San Diego Gas & Electric Company (SDG&E) is a regulated public utility that provides electric service to approximately 1.4 million customers within an approximately 4,100-square-mile service area, covering 25 cities and unincorporated areas within San Diego County and a portion of Orange County. In an effort to maintain existing electric power lines and improve overall system reliability in high fire threat and wind-prone areas in SDG&E's service territory, SDG&E routinely replaces existing wood poles with steel poles to reduce fire hazards and improve system performance in hazardous wind conditions. SDG&E's Proposed Project includes conducting such wood-to-steel replacement activities and transferring or replacing existing conductors and ancillary facilities along an approximately seven-mile-long portion of the existing 69 kilovolt (kV) tie line (TL) 649.

This chapter defines the Proposed Project's location, objectives, and components; describes the existing electric system; and explains how the Proposed Project will be implemented. This chapter also identifies any permits or other approvals that may be needed to implement the Proposed Project. Finally, this chapter identifies SDG&E's project design features and ordinary construction/operating restrictions, as well as any additional measures proposed by SDG&E to avoid or minimize potential environmental impacts.

3.1 PROJECT LOCATION

The Proposed Project is located in the southeastern portion of San Diego County, California, approximately 12 miles southeast of downtown San Diego and approximately 1.5 miles north of the United States- (U.S.-) Mexico border. The Proposed Project traverses the City of Chula Vista, the City of San Diego, and unincorporated San Diego County. The location of the Proposed Project is depicted in Figure 3-1: Project Location Map. The portion of TL 649 that will be replaced is approximately seven miles in length and between pole locations 1 and 117, as depicted in Attachment 3-A: Detailed Route Map. TL 649 extends farther than the Proposed Project alignment; however, wood-to-steel replacement will only occur on this portion of the power line. Replacement poles will be placed within SDG&E's existing alignment. Land uses along the Proposed Project route include residential, recreation, institutional, open space, public lands, rural lands, and utility corridors. Additional discussion of land uses in the vicinity of the Proposed Project is provided in Section 4.10 Land Use and Planning.

3.2 EXISTING SYSTEM

TL 649 is a 69 kV single-circuit power line that connects the Otay, Border, Otay Lakes, and San Ysidro substations. TL 649 originates at the Otay Substation and runs east to the Otay Lakes Substation, and south to San Ysidro Substation. A tap at O'Neil Canyon runs south from pole location 75 to the Border Substation. Figure 3-2: Regional System Map and Figure 3-3: Existing and Proposed System Configuration depict SDG&E's existing power line system, which will not be modified by the Proposed Project.

3.3 PROJECT OBJECTIVES

The Proposed Project is intended to meet the following objectives:

- Increase the fire safety and service reliability of TL 649
- Minimize potential adverse environmental effects
- Locate proposed facilities within existing utility corridors to the extent feasible

Chapter 2 – Project Purpose and Need provides further detail regarding the Proposed Project's objectives.

3.4 PROPOSED PROJECT

The Proposed Project includes the following series of activities, which will occur at the locations depicted in Figure 3-4: Project Components Map:

1. Wood-to-steel replacement of existing facilities, which includes the following:

    a. Removing approximately 132 existing power and distribution line poles and replace them with approximately 117 galvanized steel poles[1] (typically within 10 feet of the existing wood pole locations)

    b. Conducting overhead work on approximately two existing power line poles and approximately one existing distribution line pole

    c. Transferring existing 69 kV conductors to the replacement poles along the entire approximately seven-mile-long Proposed Project alignment

    d. Removing and reconductoring existing 12 kV conductors[2] currently underbuilt on approximately 3.9 miles of the power line between pole locations 18 and 76 and between pole locations 108 and 108.1, and along approximately 640 feet of the distribution line between pole locations 18.1 and 18.5

    e. Transfer existing 12 kV conductors currently underbuilt on approximately 1.5 miles of the power line between pole locations 76 and 95 and between pole locations 108 and 117

    f. Removal of an approximately 400-foot-long portion of the distribution line between pole locations 18.3 and 19

    g. Transferring existing telecommunication cables currently underbuilt on portions of the power line

[1] The galvanized steel poles will weather and become duller in appearance over time.
[2] The new 12 kV specular distribution conductors will dull over time.

Figure 3-1: Project Location Map

Tie Line 649 Wood-to-Steel Replacement Project

Proposed Project (TL 649)

1:200,000

0 2 4 Miles

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SDGE A Sempra Energy utility

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Figure 3-2: Regional System Map

Figure 3-2: Regional System Map has been omitted from this document due to its confidential nature.

Figure 3-3: Existing and Proposed System Configuration

Figure 3-3: Existing and Proposed System Configuration has been omitted from this document due to its confidential nature.

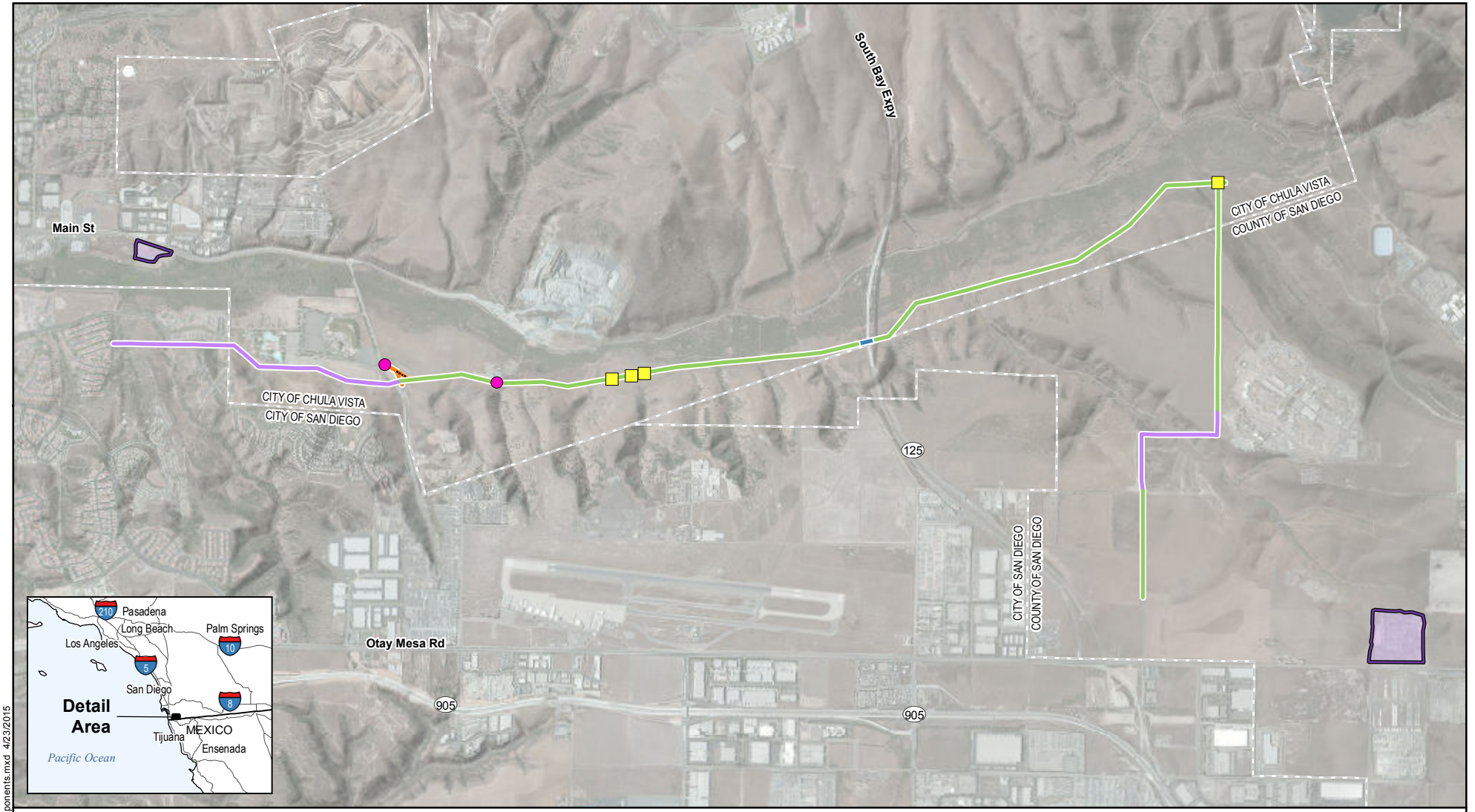

Figure 3-4: Project Components Map

Tie Line 649 Wood-to-Steel Replacement Project

- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Distribution Line Removal
- Wood-to-Steel Replacement Distribution Only
- Underground to Overhead Conversion with Distribution Underbuild
- Underground Distribution Intercept
- Access Road Modification
- Staging Yard
- Municipal Boundary

1:40,000

0 0.5 1 Miles

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SDGE A Sempra Energy utility

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2. Conversion of approximately 430 feet of underground power line cable under State Route (SR-) 125 to an overhead configuration

3. Interception of existing underground distribution lines by trenching approximately 80 to 100 feet to pole location 25 and approximately 20 feet to pole location 18.5

4. Modification of existing access roads as needed to ensure safe access by expanding the road width by approximately five feet at pole locations 34, 35, 36, and 75 for lengths measuring approximately 50 feet, or as dictated by the condition of the road at the time of construction

Because the existing 69 kV conductors will be transferred to the new poles and no changes to any associated substation or other infrastructure is proposed, the Proposed Project will not increase the capacity of the existing system. There are no reasonably foreseeable future phases or other reasonably foreseeable consequences of the Proposed Project.

3.5 PROJECT COMPONENTS

The following subsections describe the Proposed Project components in further detail.

3.5.1 Wood-to-Steel Replacement

Pole Installation

Existing poles (ranging from approximately 30 to 76 feet tall) will be replaced with new poles at an approximately one-to-one ratio. Table 3-1: Proposed Project Pole Summary (Approximate Values) details the quantity and the approximate dimensions of the replacement steel poles. The steel poles will typically be placed in line with the existing conductors and within approximately 10 feet of the existing poles, except in a few locations where design requirements or site conditions require that replacement poles be located more than 10 feet from the existing pole locations. Attachment 3-A: Detailed Route Map illustrates where wood-to-steel pole replacement, new pole installation, pole removal, and overhead work will occur.

Table 3-1: Proposed Project Pole Summary (Approximate Values)

Pole Type	Approximate Quantity	Maximum Pole Length (feet)	Maximum Height Above Ground (feet)	Average Base Diameter at Grade (feet)
Direct Bury	89	100	84	2.5
Micro-Pile Foundation	7	88	90	7
Pier Foundation	21	83	85	7

Note: This table is preliminary and subject to change based on California Public Utilities Commission (CPUC) requirements, final engineering, and other factors.

SDG&E will use tangent poles when the pole alignment continues in a generally straight line and angle poles[3] when the run of poles changes direction. SDG&E will direct-bury replacement steel poles where possible or install self-supported steel poles on micro-pile or pier foundations, as site conditions require. Approximately 117 poles will be installed—to support an average conductor span length of approximately 650 feet. SDG&E will also install all necessary and proper guys and anchorage. In addition, all of the steel poles will require the installation of two eight-foot-long and four-inches-wide grounding rods approximately six feet apart and buried approximately eight to 18 inches below ground surface within the established work areas described in Section 3.7.1 Work Areas. Replacement poles will include galvanized pole steps if the pole locations are not accessible by a 24-hour all-weather access road.

All pole locations and dimensions are based on preliminary engineering data and will not be finalized until Proposed Project engineering has been completed and the Proposed Project has been approved by the CPUC.

Attachment 3-B: Typical Drawings provides typical drawings of each type of pole and foundation that will be removed or installed, as well as an example photograph of an existing wood pole. A detailed discussion of pole installation methods is provided in Section 3.7.4 Methods.

Conductor Installation

SDG&E will configure each steel pole to carry a variation of the following:

- Three 69 kV 636 kcmil[4] (0.977-inch diameter) aluminum-clad steel-supported (ACSS) aluminum conductors or 1,033.5 kcmil (1.212-inch diameter) aluminum-clad steel reinforced (ACSR) conductors

- Three to four 12 kV 636 kcmil (0.977-inch diameter) ACSR conductors or #4/3 copper (0.254-inch diameter) conductors where existing distribution conductors are located

- Existing telecommunication cables where existing telecommunication cables are located

SDG&E will transfer the three existing 69 kV conductors to one or both sides of the steel poles and arrange the conductors in a vertical configuration with a minimum separation of approximately 4.5 feet. Where there is existing distribution underbuild, SDG&E will install three new 12 kV specular conductors that will dull in appearance over time or transfer existing 12 kV conductors on the steel poles. SDG&E will arrange the conductors in a horizontal configuration with a minimum horizontal separation of approximately four feet in accordance with current CPUC General Order (GO) 95 requirements. SDG&E will generally install the lowest 69 kV conductor at least 30 feet above the ground surface and the lowest 12 kV conductor at least 25 feet above the ground surface. The conductors will be attached using post and strain

[3] An angle pole is designed to take the additional lateral loading caused by a change in the conductor's centerline direction.

[4] kcmil (1,000 circular mils [cmils]) is a quantity of measure for the size of a conductor; kcmil wire size is the equivalent cross-sectional area in thousands of cmils. A cmil is the area of a circle with a diameter of 0.001 inch.

insulators installed on each pole. Existing telecommunication cables will be transferred to the replacement steel poles.

Distribution Line Removal

Currently, the underbuilt distribution line on TL 649 connects to an existing distribution line at pole location 19. As part of the Proposed Project, SDG&E will relocate the existing distribution line's connection to pole location 18, remove the existing approximately 400-foot-long distribution line between pole locations 18.3 and 19, and remove pole locations 19 and 19.1. The distribution line and pole removal is depicted in Attachment 3-A: Detailed Route Map.

3.5.2 Underground Distribution Line Intercepts

An existing underground distribution line will be intercepted from the existing distribution riser at pole location 18.5 to the new distribution pole location. This will require the installation of three 1000 XLPECN-PEJAL cables in a new approximately 20-foot-long duct bank. The duct bank will consist of two five-inch conduits, which will be placed in an approximately two-foot-wide by five-foot-deep trench. In addition, an approximate four-foot-long by four-foot-wide by five-foot-deep intercept hole will be excavated at the existing underground duct bank location. The underground distribution line intercept is depicted in Attachment 3-A: Detailed Route Map.

An existing underground distribution line will be intercepted from the pedestal location near pole location 26 to the new distribution pole location 25. Rerouting the existing distribution line will require the installation of two 3/0 and one 1/0 600v cables in an approximately 80- to 100-foot-long duct bank. The duct bank will consist of one three-inch conduit in an approximately one-foot-wide by three-foot-deep trench. In addition, an approximate three-foot-long by three-foot-wide by three-foot-deep intercept hole will be excavated at the pedestal location. The underground distribution line intercept is depicted in Attachment 3-A: Detailed Route Map. A typical duct bank drawing is provided in Attachment 3-B: Typical Drawings.

3.5.3 Underground to Overhead Conversion

Between pole locations 50 and 51, the existing power line is currently in an underground configuration under the SR-125. This segment was installed underground to facilitate the construction of the SR-125 bridge. SDG&E will convert this approximately 430-foot-long underground segment to an overhead configuration as part of the Proposed Project. The existing cables will be removed from the underground duct bank, and new conductors will be installed on the new replacement poles, as described in Section 3.5.1 Wood-to-Steel Replacement. The existing duct bank and vaults will be abandoned in place.

3.5.4 Access Road Modifications

SDG&E will modify the existing access roads in approximately four areas near pole locations 34, 35, 36, and 75 to accommodate the shift of the replacement poles toward the center of the right-of-way (ROW), which will place the poles in the existing access road. These modifications are necessary to create a safe travel way for construction and operation and maintenance personnel and equipment. Therefore, SDG&E will expand the access road by approximately five feet for approximately 50-foot lengths at each of these pole locations, which are depicted in Attachment 3-A: Detailed Route Map. The actual distance for each access road

modification will be determined at the time of construction and will be based on the new pole location as well as the condition of the road at the time of construction.

3.6 PERMANENT LAND/RIGHT-OF-WAY REQUIREMENTS

SDG&E currently has an existing approximately 20-foot-wide ROW on City of Chula Vista, City of San Diego, San Diego County, state, and private property along the entire length of the power line between pole locations 1 and 117. SDG&E also has an approximately 12-foot-wide ROW on private property along the entire length of the distribution line between pole locations 18.1 and 18.5. No additional ROWs will be required for the Proposed Project. These existing ROWs will be maintained to be consistent with SDG&E's existing operation and maintenance procedures. SDG&E will obtain landowner approval for use of the staging yards located outside of SDG&E's existing ROWs.

3.7 CONSTRUCTION

Prior to initiating construction, SDG&E will make all the appropriate and necessary notifications, including landowner notifications. In addition, SDG&E will contact the Underground Service Alert prior to the start of ground-disturbing activities in order to identify underground utilities in the immediate area. Once SDG&E completes the appropriate notifications, construction will proceed as described in the following subsections.

3.7.0 Access

The following subsections describe the anticipated access requirements to the Proposed Project components. Minor adjustments to the access requirements identified in Attachment 3-A: Detailed Route Map may be necessary at the time of construction due to site conditions, construction requirements, and other factors. In these cases, as part of the project design features and ordinary construction restriction and operating restrictions, SDG&E will identify the specific locations and improvements that are required, and complete an internal environmental review that analyzes and minimizes potential impacts to sensitive environmental resources.

Existing Access Roads

The Proposed Project will utilize a network of existing dirt and gravel access roads to provide access to TL 649. The approximate locations of such existing roads are shown in Attachment 3-A: Detailed Route Map. The power line ROW will be accessed using existing roads, which are approximately a minimum of 12 feet wide with an additional two feet of windrows on each side. Use of additional existing roads beyond those that have been identified may be required during construction or access roads may require improvement outside the existing footprint of the roadway (e.g., decreasing a turning angle on a hairpin curve to accommodate construction vehicles' turning radii).

Where existing roads are damaged, typical repairs (e.g., smoothing the road, stabilizing loose areas, and improving the surface quality of the road) may be made by blading, importing and compacting more stable materials in loose areas, or applying additional surface materials to improve access conditions. The extent of road repairs will be determined prior to construction

and is contingent on road conditions (e.g., erosion and road use that the roads experience prior to construction).

Access Road Modifications

As described previously in Section 3.5.4 Access Road Modifications, SDG&E will modify the access roads at pole locations 34, 35, 36, and 75, as depicted in Attachment 3-A: Detailed Route Map. Modifications to the access roads in these areas will be conducted in a manner similar to the repair of existing access roads described previously. Table 3-2: Access Road Modification Summary provides a summary of access road modifications for the Proposed Project.

Table 3-2: Access Road Modification Summary

Pole Location	Approximate Length (feet)	Approximate Width (feet)	Total Approximate Area (square feet)
34	50	5	250
35	50		250
36	50		250
75	50		250
Total	**200**	**--**	**1,000**

Note: This table is preliminary and subject to change based on CPUC requirements, final engineering, and other factors.

Overland Travel Routes

In addition, SDG&E may utilize overland travel routes, which are depicted in Attachment 3-A: Detailed Route Map, in order to avoid and minimize impacts to sensitive environmental resources. Vegetation trimming may be required in order to reduce the fire risk; however, no grading will be required for overland travel routes. The overland travel routes are approximate locations and may be shifted based on site conditions, sensitive environmental resources, and access requirements at the time of construction. Additional overland travel routes to work areas may be required during construction.

Turnarounds

SDG&E has identified approximately 10 locations where turnarounds will be required, which are depicted in Attachment 3-A: Detailed Route Map. The number of turnarounds and locations are estimates and subject to change based on site conditions and access requirements at the time of construction. Turnaround areas may also be used for staging and parking during construction.

3.7.1 Work Areas

The temporary work areas depicted in Attachment 3-A: Detailed Route Map will be required in order to facilitate construction. The specific locations of these work areas are depicted in Attachment 3-A: Detailed Route Map. The pole work areas are not depicted because their exact locations will be determined during construction. These anticipated work area requirements are

described in detail in the following subsections. The precise location and number of temporary work areas may change as necessary at the time of construction due to site conditions, construction requirements, and other factors. In these cases as part of the project design features and ordinary construction and operating restrictions, SDG&E will identify the specific locations and improvements that are required, and complete an internal environmental review that analyzes and minimizes potential impacts to sensitive environmental resources.

Staging Yards

As shown in Attachment 3-A: Detailed Route Map, SDG&E will utilize two staging yards for the Proposed Project: the approximately six-acre Main Street Staging Yard and approximately four acres within the Otay Staging Yard.[5] The final location of the Otay Staging Yard will depend on property owner approval and a configuration that utilizes previously disturbed areas to the extent possible. In addition, SDG&E may use the access road turnarounds described previously in Section 3.7.0 Access, as staging yards during construction. Additions or modifications to the staging yards may be necessary during construction.

The staging yards will be used for storage and preparation of construction materials, including replacement poles and conductors, as well as construction equipment before delivery to the individual pole work areas. The poles will be assembled at the staging yards and/or in the pole work areas. Equipment, materials, and vehicle parking will be accommodated at these locations for the duration of construction associated with each staging yard. Staging yards will be accessed using public roadways and existing access roads.

SDG&E will install a six- to eight-foot-tall temporary chain-link fence with a locked gate and screening around the perimeter of the Main Street Staging Yard unless such is already in place. The Otay Staging Yard will be within an existing wrecking yard, which already has screened fencing and locked gates. The yards may also have security cameras or guards.

SDG&E may mobilize construction trailers to the staging yards, which will generally be used for construction management activities. If temporary power is required, a temporary tap from an existing distribution line will be installed to provide electrical service, or a small generator will be used. The temporary power will be used for the operation of the construction trailer, construction lighting, and small hand tools.

Pole Work Areas

In order to accommodate construction equipment and activities during pole installation and removal and while transferring the power line conductors, temporary construction areas will be required at each pole location.

It is anticipated that each of the direct-bury steel poles, removal poles, and overhead work only poles will require an approximately 20-foot-diameter work area (approximately 314 square feet); each of the micro-pile foundation steel poles will require an approximately 40-foot-diameter

[5] The Otay Staging Yard is approximately 33.1 acres, but SDG&E will only use approximately four acres within this site.

work area (approximately 1,260 square feet); and each of the pier foundation steel poles will require an approximately 75 foot by 75 foot work area (approximately 5,625 square feet).

The work areas for each type of pole foundation will generally be centered around the existing pole location. However, actual work areas will vary in shape and size and will be determined based on site conditions and access requirements in order to provide a safe and adequate work area for construction workers, and to avoid and minimize impacts to sensitive resources. The on-site biological monitor, as appropriate, will assist construction crews in locating pole work areas that avoid and minimize impacts to sensitive resources. For purposes of analysis, temporary impact areas for direct-bury steel poles, removal from service poles, and overhead work only poles include the work area as previously described, and an additional potential impact area (approximate total of 1,260 square feet) to account for minor modifications made in the field during construction.

The positioning of construction equipment (typically line trucks, bucket trucks, and crane trucks) will involve the placement of approximately four outriggers (per vehicle) with dimensions of approximately two feet wide by three feet long (6 square feet) per outrigger for line trucks, and four feet wide by four feet long (16 square feet) per outrigger for crane trucks. The location of the outriggers will be evaluated by the onsite biological monitor prior to their placement in order to avoid and minimize impacts to sensitive resources.

Stringing Sites

Approximately 28 stringing sites will be required for installing new conductors, tensioning the conductor to a pre-calculated level, and loading tractor-trailers with reels of conductor and trucks with tensioning equipment. Each stringing site will be approximately 30 feet by 150 feet, but will vary in size depending on site conditions. Stringing sites will be spaced approximately 3,000 feet apart and will generally be located at the end of a straight power line segment where the line changes direction. Stringing sites may be added, shifted or modified at the time of construction to accommodate construction requirements.

Guard Structures

One to two guard structures or bucket trucks will be required at Heritage Road to enable safe crossing of the road during conductor stringing. Guard structure work areas will generally measure approximately six feet by six feet for each pole, resulting in a total temporary disturbance of approximately 72 to 144 square feet, depending on whether single wood pole or two-pole wood structures are used. Adjustments and additions of guard structures may be necessary to provide safe working conditions during construction activities.

Underground Distribution Line Intercept Trench Work Areas

In order to facilitate the trenching for the underground distribution line intercept duct banks, an approximately 10-foot-wide work area will be required along the trenches. One approximately 20-foot-long trench and one approximately 80- to 100-foot-long trench will be required for the underground distribution line intercepts.

Underground to Overhead Conversion Pulling Site

In order to facilitate the underground to overhead power line conversion under the SR-125 bridge, it is likely that one pulling site will be required. The pulling site will require an approximately 1,875-square-foot work area, measuring approximately 25 feet by 75 feet. The exact configuration of the pulling site or additional sites will be determined during construction, but will be situated to avoid sensitive resources.

3.7.2 Vegetation Removal and Trimming

Tree removal is only anticipated at pole location 26; however, additional tree removal may be identified at the time of construction. The tree to be removed is a California pepper tree (*Schinus molle*) that is approximately 20 feet tall, 18 inches in diameter, and 55 inches in circumference. The tree will be removed by a two-man crew in a lift/bucket truck. The crews will use a chainsaw to cut the tree down in small sections from the top of the tree down to the ground. Limbs will be chipped up and hauled away to a green recycling center. Logs will be left on site for the landowner or will be hauled away, if necessary.

Existing vegetation may need to be trimmed in temporary construction areas—including staging yards, pole work areas, access roads, turnarounds, stringing sites, guard structure work areas, the underground to overhead conversion pulling site, and underground distribution line intercept trench work areas—to provide a safe working environment. No tree trimming is anticipated, but may be required at the time of construction. Some mature bushes and other brush may need to be trimmed. Vegetation will be trimmed by using a variety of methods, including gas-powered weed abatement tools, sickles, rakes, and other hand tools or equipment-mounted brush-clearing devices. Section 4.4 Biological Resources provides detailed information regarding the effects of trimming on vegetation and habitat communities. Tree trimming requirements under CPUC GO 95 are described in Section 3.8.1 Pole Brushing and Tree Trimming.

3.7.3 Erosion and Sediment Control and Pollution Prevention

Construction of the Proposed Project will involve ground-disturbing activities on land with slopes up to 46 percent; these activities include minor earthwork and vegetation trimming associated with the use of temporary construction work areas. Because ground disturbance will be greater than one acre, SDG&E will obtain approval for these activities under the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity Order No. 2009-009-DWQ (Construction Storm Water Permit). In order to obtain coverage under the permit, SDG&E will develop and submit Permit Registration Documents to the SWRCB prior to initiating construction activities. These documents include a Notice of Intent, a Storm Water Pollution Prevention Plan (SWPPP) prepared by a Qualified SWPPP Developer, a risk assessment, a site map, a certification, and an annual fee.

The SWPPP will identify best management practices (BMPs) for each activity that has the potential to degrade surrounding water quality through erosion, sediment run-off, and other pollutants, in accordance with SDG&E's BMP Manual for Water Quality Construction. These BMPs will then be implemented and monitored throughout the Proposed Project by a Qualified SWPPP Practitioner.

3.7.4 Methods

The following subsections describe the proposed methods for each construction activity.

Access Road Improvements and Modifications

SDG&E maintains existing access roads to allow operation and maintenance of the existing electric facilities. Whenever possible, construction will utilize existing access roads. The first step will be to evaluate existing access roads, then repair those roads where necessary. As described previously, the existing access roads will need to be widened in four locations. Table 3-3: Access Road Construction Equipment lists the equipment typically utilized in the repair and modification of access roads. Where existing access roads need repair and expansion, a grader will be used to blade and smooth the road in accordance with the engineered specifications. Importing and compacting more stable materials on existing facilities in unstable areas may also be required.

Table 3-3: Access Road Construction Equipment

Equipment Type	Activity	Approximate Quantity
Grader	Grading	2
Loader	Transports materials	1
Water Truck	Suppresses dust	2
Mower	Trims vegetation	2
Tractor Trailer Unit	Transports equipment and materials	2
Dump Truck	Transports materials	1

Note: This table is preliminary and subject to change based on CPUC requirements, final engineering, and other factors.

Existing Pole Removal

Once the replacement poles have been constructed, existing conductor has been transferred to the replacement poles, new distribution conductor has been strung, and any telecommunication cables have been transferred to the replacement poles, SDG&E will remove the existing poles. Pole removal activities will utilize boom and bucket trucks to remove cross arms, distribution conductors, and poles. Poles will be completely removed where possible. The holes will be backfilled with native soil from excavation of the new pole holes or imported materials similar to the surrounding area, and the site will be restored to its approximate pre-construction condition. The entire pole will be removed unless a sensitive resource will be impacted by the pole butt removal, in which case, the pole will be cut at the base or six to 12 inches below the surface and covered with native material. All anchors and stub poles will also be removed where possible. Anchor rods will be unscrewed or cut off approximately 18 inches below ground surface. Existing poles, associated hardware, and any other debris generated from Proposed Project activities will be removed from the Proposed Project site for recycling or disposal at an approved facility.

Steel Pole Installation

The following subsections describe the installation methods for the different types of steel poles.

Direct-Bury Steel Poles

Installation of direct-bury steel poles will begin with the excavation of holes approximately 4.5 feet in diameter at grade on average and approximately six to 16 feet deep, depending on the height of the pole. Pole holes will be excavated using a truck-mounted auger, track-mounted drill rig, by hand with the aid of a hand jack powered by an air compressor, or with similar equipment. Pole hole drilling will excavate approximately 3.5 to 9.5 cubic yards (CY) of soil per pole. New poles will be delivered to the site by line truck and placed in the holes by using a line truck, crane, or bucket truck. The annular space between the poles and hole walls will then be backfilled with concrete, with an additional foot of crushed rock placed beneath the bearing plate, if needed, due to drainage and soil conditions.

The permanent footprint for each direct-bury steel pole will be approximately 4.5 feet in diameter (approximately 16 square feet) at grade on average. Direct-bury steel poles will be installed at approximately 89 locations.

Pier Foundation Steel Poles

Pier foundation installation will begin with the excavation of a hole approximately seven feet in diameter at grade on average and approximately 30 feet deep, depending on the properties of the soil or rock underlying the surface. Pole hole drilling will excavate approximately 42.8 CY of soil per pole. A steel rebar cage will be inserted into each hole and centered, and the remaining space will be filled with a mixture of water, cement, and sand. The foundations will extend approximately two feet above ground. New poles will be delivered to the site by line truck and placed on the foundation by using a line truck, crane, or bucket truck.

The permanent footprint for each pier foundation steel pole will be approximately seven feet in diameter (approximately 39 square feet) at grade on average. Pier foundation steel poles will be installed at approximately 21 locations.

Micro-Pile Foundation Steel Poles

Micro-pile foundation installation will begin with the excavation of holes approximately six to nine inches in diameter at grade on average by approximately 30 feet deep, depending on the properties of the soil or rock underlying the surface. Depending on requirements for foundation strength, four to 16 micro-piles will be arranged in a circular pattern. Pole hole drilling will excavate approximately 0.9 to 7.9 CY of soil per pole. Holes for micro-pile foundations will be drilled using a small drill rig or similar equipment operated from the top of an elevated platform. The platform will be approximately eight feet by eight feet, placed on four to six legs, and approximately six feet above grade. A steel rod will be inserted into the hole and centered, and the remaining space will be filled with grout, a mixture of water, Portland cement, and sand. The steel rod will protrude above grade and will connect to a steel cap/transition plate supporting the structure above grade. New poles will be delivered to the site by line truck and placed on the steel cap/transition plate by using a line truck, crane, or bucket truck.

The permanent footprint for each micro-pile steel pole will be approximately seven feet in diameter (approximately 39 square feet) at grade on average. Micropile foundation steel poles will be installed at approximately seven locations.

Conductor Installation

SDG&E will coordinate with the California Independent System Operator (CAISO) and relevant parties to obtain all the necessary line outages prior to transferring the power line conductors to the new poles in the event that the power line will have to be taken out of service. This will ensure that SDG&E can take the power line out of service and redistribute power to service centers and customers. SDG&E coordinates all necessary outages for distribution conductor installation.

As described previously, prior to transferring the existing power line conductors and stringing the new distribution conductors, temporary guard structures that typically consist of vertical wood poles with cross arms will be installed at the Heritage Road crossing, preventing the conductors from sagging onto the roadways. Bucket trucks may also be used as guard structures. As an alternative to using temporary guard structures, SDG&E may use flaggers to halt traffic for brief periods while overhead conductors are installed at the Heritage Road crossing.

The power line conductor transfer will begin with the installation of insulators on the new steel poles. Bucket trucks will be used to unclip the power line conductor from the existing wood poles, attach the conductor to the new insulators, and install the vibration dampers and other hardware accessories. After the conductor is pulled into place, the sag between the structures will be adjusted to a pre-calculated level.

Distribution conductor stringing will begin with the installation of insulators and stringing sheaves during steel pole installation. Sheaves are rollers that temporarily attach to the lower end of the insulators to allow the conductor to be pulled along the line. A rope will then be pulled through the rollers from structure to structure. Once the rope is in place, it will be attached to a steel or synthetic cable and pulled back through the sheaves and into place using conventional tractor-trailer pulling equipment located within one of the stringing sites. The conductor will be pulled through each structure under a controlled tension to keep the conductor elevated and away from obstacles, thereby minimizing third-party damage to the line and protecting the public. After the conductor is pulled into place, the sag between the structures will be adjusted to a pre-calculated level. The conductor will then be attached to the end of each insulator, the sheaves will be removed, and the vibration dampers and other hardware accessories will be installed. SDG&E will accomplish the removal of existing conductors in a method similar to the reverse of the conductor installation process. The old conductors will be recycled at an approved facility.

The telecommunication providers or their contractors will transfer the existing telecommunication cable to the new steel poles using bucket trucks.

In some cases, sleeves or splices may be installed on the conductors. This might occur when stringing operations slightly damage the conductor, or if the conductor is not long enough and needs to be joined to another segment. If the conductor is damaged, a section of the conductor

may be replaced or a repair sleeve may be wrapped around the outside of the conductor and pressed into place to protect the conductor. SDG&E will utilize full-tension splices when the conductor is damaged too severely for a repair sleeve, when the conductor is not long enough to span structures, or if stringing sites are spread too far apart. During full-tension splices, the two ends of the conductor are connected with the use of heavy-duty vices.

Underground Distribution Line Intercepts

The underground distribution line intercepts will be installed using the open trench method. Trenches will be excavated using a backhoe and other trenching equipment as warranted by site conditions. The depth of the trenches will be determined by localized topography and potential conflicts, but they are anticipated to be three to five feet deep, with a width of one to two feet. Once installed, the depth from grade to the top of the concrete duct package will be at least 2.5 feet, and the depth from grade to the top of the conduit in the duct package will be at least three feet. The excavated native material will be used to backfill the trench after installation of the concrete duct banks. SDG&E does not anticipate that engineered backfill will be required.

The polyvinyl chloride cable conduits for underground distribution lines will be installed (and separated by spacers), and concrete will be poured around the conduits to form the duct banks after trenching activities for the underground duct banks have been completed. The trenches will be backfilled with these materials, and the cables will be installed in the duct banks upon completion of the duct bank installation. Each cable segment will be pulled into the duct bank and terminated at the cable pole where the line converts to an overhead configuration. A cable reel will be placed at one end of the section and a pulling rig will be placed at the other end to pull the cable through the ducts. By using a fish line, a larger rope will then be pulled into the duct and attached to the cable puller, which pulls the cable through the duct. To decrease friction during pulling, lubricant will be applied to the cable as it enters the duct.

Underground to Overhead Conversion

The underground to overhead conversion of the power line under SR-125 will be conducted in a manner similar to the steel pole and conductor installation described previously. Once the new steel poles have been installed on either side of SR-125, SDG&E will install new conductors between pole locations 50 and 51, which will be connected to the existing power line conductors by using sleeves or splices. The existing cables will be recycled at an approved facility, and the existing underground duct bank will be abandoned in place.

Dewatering

No dewatering is anticipated during construction of the Proposed Project. Discharges of groundwater to land or surface waters/municipal storm water systems may require obtaining coverage under an applicable SWRCB or San Diego Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements (WDRs), Waiver of WDRs, or NPDES permit. In the event that groundwater is encountered during excavation of the holes for pole installation or during trenching for the underground distribution lines, the following general construction

dewatering procedures will be implemented in accordance with local, state, and federal dewatering requirements:

1. A submersible pump will be installed.

2. If the groundwater will be discharged to an upland area, as necessary, it will be pumped to a desiltation tank (i.e., baker tank) for sediment filtering. If the groundwater is pumped to a baker tank, baffles will be installed in the tank to increase sedimentation, and the water in the tank will be tested in accordance with any applicable permit or other requirement.

3. If the groundwater is pumped to a baker tank for discharge to surface waters, the water will be tested to ensure compliance with the applicable RWQCB or SWRCB NPDES permit requirements. If the water quality does not meet permit requirements, additional baker tanks will be used and/or additional treatment or filtering will be performed until the applicable requirements are met.

4. If the groundwater will not be discharged to an upland area or surface waters in the area, or if the water quality does not meet permit requirements, the water will be disposed of at an approved SDG&E disposal site that is licensed to handle wastewater.

Blasting

If rock is encountered during pole excavation, a hydraulic rock drilling and splitting procedure (rock-splitting) may potentially be used to minimize drilling time, depending on site specific conditions. The procedure involves drilling a hole in the rock and inserting a non-blasting cartridge of propellant. The cartridge is mechanically initiated by an impact generation device. This hydro-fracturing effect causes controlled tensile crack propagation in the rock and does not result in flyrock, noxious fumes, or ground vibrations.

In the unlikely event that rock blasting may potentially be used to excavate pole locations along the power line that are solid rock, and where the hydraulic rock drilling and splitting procedure will be ineffective, the following procedure will be utilized. The procedure will minimize both drilling time and noise impacts. The blasting involves drilling approximately three-inch diameter blast holes to the full depth of the shaft and inserting explosives. Blasting caps are connected, and a non-electric detonator is employed. Flyrock protection is installed prior to blasting, and seismographs are placed to measure and record peak particle velocity and air blast levels at various distances from the blast site. Dust control will include a combination of steel plate covering, geo-textile fabric with chain link fence covering, and wetting the blasting surface. If blasting is utilized, the blasting contractor will be required to obtain a blasting permit and explosive permit per the San Diego County Regulatory Ordinances. The appropriate BMPs will be used before, during, and after all construction activities where necessary to prevent erosion and off-site sedimentation.

Cleanup and Post-Construction Restoration

All areas that are temporarily disturbed around each structure, areas used for conductor pulling, and all staging yards will be restored to approximate pre-construction conditions, to the extent

practicable. This will include removal of all construction materials and debris, returning areas to their original contours, and reseeding, as needed. Any excess material from excavations will be placed around the holes, spread onto access roads, or properly disposed of at an appropriate off-site facility.

3.7.5 Equipment

Attachment 3-C: Construction Equipment Summary provides the equipment that will be used to construct the Proposed Project, along with the approximate duration of use for each type of equipment. In addition to this equipment, pick-up trucks and worker vehicles will travel to and from each Proposed Project work site. Delivery trucks will likely travel to and from the staging yards 120 times per week, or up to 160 times per week during peak activities. Where possible, vehicles may remain on the ROW during the work period rather than return to the staging yard each night. Approximately one to three water trucks—completing an average of two trips per day—may be required to deliver water to each active construction segment of the Proposed Project site for dust control, compaction, and fire protection. All vehicles and equipment will be used in accordance with the SDG&E Wildland Fire Prevention and Fire Safety Plan.

In an effort to conserve water, SDG&E will limit the use of water for dust control to the minimum necessary to comply with federal, state, and local regulations. Potable water will be obtained from a local water purveyor. The Otay Water District provided a Will-Serve Letter on September 29, 2014 stating that they have adequate capacity to provide the approximately 4.5 million gallons of potable water required for construction of the Proposed Project. Recycled water will be used to the extent feasible and where the applicable regulations permit its use. SDG&E will identify and evaluate sources of recycled water in close proximity to the Proposed Project for use controlling fugitive dust. If recycled water is available during construction and the use of recycled water will not result in potentially significant impacts to air quality, greenhouse gas emissions, or traffic as a result of transportation of the recycled water from a recycled water source to construction areas, SDG&E will use recycled water to the extent that it is feasible to do so. The South Bay Water Reclamation Plant in the City of San Diego is currently the closest recycled water source to the Proposed Project. If recycled water is used, it will be handled, stored, and applied in accordance with all applicable federal, state, and local rules and regulations.

Chapter 4 – Environmental Impact Assessment analyzes the potential impacts from using either all potable water from the Otay Water District, all recycled water from the South Bay Water Reclamation Plan, or a combination of both.

3.7.6 Schedule

SDG&E anticipates that construction of the entire Proposed Project will take approximately seven months from initial site development through final energization. Table 3-4: Proposed Construction Schedule summarizes the length of time anticipated for each construction activity.

Table 3-4: Proposed Construction Schedule

Activity	Approximate Duration (days)	Anticipated Start Date
Staging Yard Set-Up/Road Refreshing/Vegetation Trimming/BMP Installation	6	September 2016
Micro-Pile Foundation Construction	40	October 2016
Pier Foundation Construction	63	October 2016
Direct-Buried Construction and Pole Installation	90	October 2016
Trenching for Installation of Underground Cables	3	January 2017
Stringing Activities/Transfer Conductor/Sagging Activities/Pole Removal	60	January 2017
Demobilization/Clean Up/Road Refreshing	26	March 2017

Note: This table is preliminary and subject to change based on CPUC requirements, final engineering, and other factors.

Construction activities will generally be limited to not more than 12 hours per 24-hour period, six days per week, as needed. On occasion, construction activities may be required at night or on weekends to minimize impacts to schedules and to facilitate cutover work, and as required by other property owners or agencies, such as the CAISO, which may require outages of certain portions of the electric system. If construction occurs outside of the hours allowed by the City of Chula Vista, the City of San Diego, or the County of San Diego, SDG&E will meet and confer, or follow established practices with the appropriate jurisdictions, as needed.

3.7.7 Personnel

Table 3-5: Peak Construction Personnel provides the positions and number of personnel anticipated to be on site during peak construction. Construction of each component of the Proposed Project will be phased according to the Proposed Project schedule shown in Table 3-4: Proposed Construction Schedule. Typically, four or five crews of five workers will work concurrently along the alignment. In addition, approximately five crews of two workers will work concurrently along the alignment where hand digging of pole holes is needed. Removal of existing poles will occur immediately following new conductor installation unless third-party facilities are present, which may temporarily delay existing pole removal by approximately 30 to 60 days until the third party relocates its facilities.

Table 3-5: Peak Construction Personnel

Position	Approximate Quantity
General Foreman	1
Working Foreman	4
Linemen	15
Ground Men	15
Total	**35**

Note: This table is preliminary and subject to change based on CPUC requirements, final engineering, and other factors.

After the completion of construction, the power line will be operated and maintained by SDG&E at existing staffing levels. No additional staff will be necessary to maintain the power line.

3.8 OPERATION AND MAINTENANCE

This section describes the standard operation and maintenance activities and procedures that SDG&E currently conducts and will continue to conduct along the proposed power line route. For decades, SDG&E has continuously operated the facilities that will be modified by the Proposed Project. Following construction of the Proposed Project, SDG&E will continue to conduct these activities to be consistent with SDG&E's existing protocols and procedures, including SDG&E's Subregional Natural Community Conservation Plan (NCCP), which is described in greater detail in Section 4.4 Biological Resources.[6] No change in SDG&E's operation and maintenance protocols and procedures is anticipated or included as part of the Proposed Project.

SDG&E will continue to regularly inspect, maintain, and repair TL 649 pending agency review of the Proposed Project and following completion of Proposed Project construction. These activities involve both routine preventive maintenance and emergency procedures to maintain service continuity. SDG&E performs aerial and ground inspections of Proposed Project facilities and patrols above ground components annually. Inspection for corrosion, equipment misalignment, loose fittings, and other common mechanical problems is performed at least every three years (per CPUC GO 165) for power lines.

3.8.0 Road Maintenance

Road maintenance includes grading of existing access roads, installation of BMPs, spot-repair of erosion sites, and vegetation trimming, as needed. SDG&E performs road maintenance as necessary. Road maintenance may require the use of the following equipment: a motor grader, D-5 bulldozer, mini-excavator, skid steer, water truck, and pick-up trucks.

[6] SDG&E will consult with the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW), as appropriate, for Proposed Project construction, but operation and maintenance will be conducted under the NCCP.

3.8.1 Pole Brushing and Tree Trimming

In accordance with fire break clearance requirements in Public Resources Code 4292 and Title 14, Section 1254 of the California Code of Regulations (CCR), SDG&E will trim or remove flammable vegetation in the area surrounding subject power line poles to reduce potential fire and other safety hazards. One-person crews typically conduct this work using mechanical equipment consisting of chain saws, weed trimmers, rakes, shovels, and leaf blowers. SDG&E typically inspects poles on an annual basis to determine if brushing is required.

In accordance with tree and power line clearance requirements in Public Resources Code 4293, Title 14, Section 1256 of the CCR and CPUC GO 95, SDG&E will trim trees and vegetation to manage fire, electrical reliability, and safety hazards. Regular inspection, regardless of habitat type, is necessary to maintain proper line clearances. SDG&E conducts tree-trimming activities with a two-person crew in an aerial lift truck and a chipper trailer. SDG&E typically inspects trees in its service area for trimming needs on an annual basis.

3.8.2 Application of Herbicides

Application of herbicides may follow the mechanical trimming of vegetation to prevent vegetation from recurring. SDG&E normally utilizes one or more of 16 herbicides. This activity generally requires one person in a pick-up truck and takes only minutes to spray around the base of the pole within a radius of approximately 10 feet. The employee either walks from the nearest access road to apply the herbicide or drives a pick-up truck directly to each pole location as access permits.

3.8.3 Equipment Repair and Replacement

Poles or structures may support a variety of equipment, such as conductors, insulators, switches, transformers, lightning arrest devices, line junctions, and other electrical equipment. SDG&E may need to add, repair, or replace equipment in order to maintain uniform, adequate, safe, and reliable service. SDG&E may remove and replace an existing structure with a larger/stronger structure at the same location or at a nearby location due to damage or changes in conductor size. Equipment repair or replacement requires crew access to the equipment to be repaired or replaced.

3.8.4 Use of Helicopters

SDG&E uses helicopters in the visual inspection of overhead facilities and routinely patrols power lines. SDG&E's Transmission Department uses helicopters for patrolling power lines during trouble jobs (e.g., outages/service curtailments) and conducting maintenance activities in areas that have no vehicle access or in rough terrain. For patrolling during such jobs, the helicopter picks up the patrolman at the district yard and lands within a reasonable and safe walking distance of the structures targeted for service. The helicopter needs a flat staging yard for fueling and picking up material, equipment, and personnel. The area required for small helicopter staging is generally 100 feet by 100 feet. The size of the crew needed varies from four to 10 crew members, two helicopter staff, and a water truck driver to apply water for dust control at the staging yard. Most helicopter operations take only one day.

3.9 ANTICIPATED PERMITS AND APPROVALS

The Proposed Project will require a Permit to Construct (PTC) by the CPUC, which in turn triggers environmental review under the California Environmental Quality Act (CEQA). Other agencies that may have approval authority over portions of the Proposed Project and may participate in the CEQA process as "cooperating," "consulting," or "responsible" agencies include the USFWS and CDFW. In addition to the PTC, SDG&E will obtain all relevant permits for the Proposed Project from federal, state, and local agencies.

Table 3-6: Anticipated Permits, Approvals, and Consultation Requirements lists the potential permits and approvals that may be required for Proposed Project construction.

3.10 PROJECT DESIGN FEATURES AND ORDINARY CONSTRUCTION/OPERATING RESTRICTIONS

SDG&E currently owns and maintains TL 649. Consequently, SDG&E's existing operation and maintenance practices for TL 649 are incorporated as part of the environmental setting and baseline for the Proposed Project.

These practices—as well as all other currently enacted internal guidance pertaining to access roads, facility construction, and operation and maintenance activities—are included as part of the baseline for the Proposed Project and are therefore considered part of the Proposed Project's existing conditions. As part of SDG&E's preliminary engineering design for the Proposed Project, potential impacts to biological, cultural, hydrological, and other environmental resources were considered with respect to removing existing poles and installing replacement poles. SDG&E conducted literature searches, desktop-level research, and field surveys to identify and map these resources prior to completing the preliminary engineering design for the Proposed Project. The areas surveyed for environmental resources consisted of a 150-foot buffer around the power line centerline. For Proposed Project features that are more than 150 feet from the centerline, the survey area included an approximately 50-foot buffer around Proposed Project facilities (e.g., staging yards), and an approximately 20-foot buffer on either side of Proposed Project access roads, unless stated otherwise. Information obtained from this research was reviewed in conjunction with the Proposed Project's preliminary design and potential design alternatives to avoid and minimize potential impacts while achieving the Proposed Project's goals and objectives. Where possible, proposed facilities were designed to avoid potential sensitive resources.

The Proposed Project includes Project Design Features and Ordinary Construction/Operating Restrictions that avoid and minimize environmental impacts. The Project Design Features and Ordinary Construction/Operating Restrictions incorporated into the Proposed Project include measures that are routinely implemented by SDG&E on other projects that involve ground disturbance. Many of these Project Design Features and Ordinary Construction/Operating Restrictions have been developed over time to avoid and minimize environmental impacts, to comply with SDG&E's Subregional NCCP, and to comply with applicable environmental laws and regulations. To be consistent with its existing practices, SDG&E will implement these Project Design Features and Ordinary Construction/Operating Restrictions as appropriate during

Table 3-6: Anticipated Permits, Approvals, and Consultation Requirements

Agency	Permit/Consultation/Approval	Jurisdiction/Purpose
Federal Agencies		
USFWS	Federal Endangered Species Act (ESA) Consultation	Activities that may affect federally listed species or their habitats
Federal Aviation Administration (FAA)	Obstruction evaluation[7]	Structures in proximity to a navigation facility and that may impact navigation signal reception
State Agencies		
CPUC	PTC	Overall Proposed Project approval and CEQA review
SWRCB	NPDES –Construction Storm Water Permit	Storm water discharges associated with construction activities disturbing more than one acre of land
CDFW	California ESA Consultation	Activities that may affect state-listed species or their habitats
California Department of Transportation	Encroachment Permit	Construction of facilities under SR-125
Local Agencies		
City of Chula Vista	Encroachment Permit	Construction activities within the Heritage Road ROW and construction of facilities over Heritage Road
	Traffic Control Permit	Lane closure
City of San Diego	Traffic Control Permit	Lane closure
County of San Diego	Traffic Control Permit	Lane closure

Note: This table is preliminary and subject to change based on CPUC requirements, final engineering, and other factors.

[7] The FAA already conducted an obstruction evaluation and determined that there is no need for lighting or marking on the poles.

construction, operation, and maintenance to avoid and minimize potential environmental impacts.

The Project Design Features and Ordinary Construction/Operating Restrictions that will be incorporated into all phases of the Proposed Project are described as follows:

- If additional or modified work areas or use of additional existing access roads, additional modifications to existing access roads, or use of additional or modified overland travel routes to work areas are required, SDG&E will identify the specific locations and improvements that are required, and complete an internal environmental review that analyzes and minimizes potential impacts to sensitive environmental resources.

- If modifications to the pole work areas are required, SDG&E's on-site environmental monitors, as appropriate, will assist construction crews in the field to locate pole work areas that avoid and minimize impacts to sensitive environmental resources.

- All visible mud and dirt that is tracked out onto paved, public roadways will be cleaned up at the conclusion of each workday or at 24-hour intervals for operations that are continuous.

- Open-bodied trucks transporting bulk materials that may become airborne will be completely covered, unless the bulk material is wetted or there is at least two feet of freeboard from the top of the container.

- SDG&E or its contractors will maintain and operate construction equipment to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues will have their engines turned off after five minutes when not in use.

- SDG&E established its NCCP in 1995, when it entered into an agreement with the USFWS and the CDFW. The NCCP prescribes "protocols" (i.e., various protection, mitigation, and conservation measures) that SDG&E must implement when utilizing the NCCP. The NCCP identifies 61 operational protocols and eight additional vernal pool protocols that SDG&E routinely implements with every project to avoid and/or minimize impacts to sensitive areas. Although the NCCP will not be utilized to mitigate the impacts of constructing the Proposed Project, the following protocols will nonetheless be implemented to avoid and/or minimize potential impacts to biological resources:

    - Section 7.1.1 – General Behavior for All Field Personnel

        1. Vehicles must be kept on access roads. A 15 miles-per-hour (mph) speed limit shall be observed on dirt access roads to allow reptile species to disperse. Vehicles must be turned around in established or designated areas only.

        2. No wildlife, including rattlesnakes, may be harmed, except to protect life and limb.

3. Firearms shall be prohibited on the rights-of-way except for those used by security personnel.

4. Feeding of wildlife is not allowed.

5. SDG&E personnel are not allowed to bring pets on the rights-of-way in order to minimize harassment or killing of wildlife and to prevent the introduction of destructive domestic animal diseases to native wildlife populations.

7. Plant or wildlife species may not be collected for pets or any other reason.

8. Littering is not allowed. SDG&E shall not deposit or leave any food or waste on the rights-of-way or adjacent property.

10. Field crews shall refer environmental issues including wildlife relocation, dead or sick wildlife, hazardous waste, or questions about avoiding environmental impacts to the Environmental Surveyor.[8] Biologists or experts in wildlife handling may need to be brought in by Environmental Surveyor for assistance with wildlife relocations.

- Section 7.1.2 – Training

11. All SDG&E personnel working within the project area shall participate in an employee training program conducted by SDG&E, with annual updates. The program will consist of a brief discussion of endangered species biology and the legal protections afforded to Covered Species; a discussion of the biology of the Covered Species protected under this Subregional Plan; the habitat requirements of these Covered Species; their status under the Endangered Species Acts (ESAs); measures being taken for the protection of Covered Species and their habitats under this Subregional Plan; and a review of the Operational Protocols. A fact sheet conveying this information will also be distributed to all employees working in the project area.

- Section 7.1.3 – Preactivity Studies

14. In order to ensure that habitats are not inadvertently impacted, the Environmental Surveyor shall determine the extent of habitat and flag boundaries of habitats which must be avoided. When necessary, the Environmental Surveyor should also demark appropriate equipment laydown areas, vehicle turn around areas, and pads for placement of large construction equipment such as cranes, bucket trucks, augers, etc. When appropriate, the Environmental Surveyor shall make office and/or field presentations to field staff to review and become familiar with natural resources to be protected on a project specific basis.

[8] The SDG&E environmental monitor will serve as the Environmental Surveyor referred to in the NCCP Operational Protocols for the Proposed Project.

- Section 7.1.4 – Maintenance, Repair and Construction of Facilities

16. Maintenance, repair and construction activities shall be designed and implemented to minimize new disturbance, erosion on manufactured and other slopes, and off-site degradation from accelerated sedimentation, and to reduce maintenance and repair costs.

20. Hydrologic impacts will be minimized tl1rough the use of state-of-the-art technical design and construction techniques to minimize pending, eliminate flood hazards, and avoid erosion and siltation into any creeks, streams, rivers, or bodies of water by use of best management practices (BMPs).

23. Impacts to wetlands shall be minimized by avoiding pushing soil or brush into washes or ravines.

24. During work on facilities, all trucks, tools, and equipment should be kept on existing access roads or cleared areas, to the extent possible.

25. Environmental Surveyor must approve of activity prior to working in sensitive areas where disturbance to habitat may be unavoidable.

27. Brush clearing around facilities for fire protection shall not be conducted from March through August without prior approval by the Environmental Surveyor. The Environmental Surveyor will make sure that the habitat contains no active nests, burrows, or dens prior to clearing.

29. Wire stringing is allowed year round in sensitive habitats if conductor is not allowed to drag on ground or in brush and vehicles remain on access roads.

30. Maintenance of cut and fill slopes shall consist primarily of erosion repair. In situations where revegetation would improve the success of erosion control, planting or seeding with native hydroseed mix may be done on slopes.

34. If any previously unidentified dens, burrows, or plants are located on any project site after the preactivity survey, the Environmental Surveyor shall be contacted. Environmental Surveyor will determine how to best avoid or minimize impacting the resource by considering such methods as project or work plan redevelopment, equipment placement or construction method modification, seasonal, time of day limitations, etc.

35. The Environmental Surveyor shall conduct monitoring as recommended in the preactivity survey report. At completion of work, the Environmental Surveyor shall check to verify compliance, including observing that flagged areas have been avoided and that reclamation has been properly implemented. Also at completion of work, the Environmental Surveyor is responsible for removing all habitat flagging from the construction site.

36. The Environmental Surveyor shall conduct checks on mowing procedures, to ensure that mowing is limited to a 12-foot wide area on straight portions of the road (slightly wider on radius turns), and that the mowing height is no less than four inches.

37. Supplies or equipment where wildlife could hide (e.g., pipes, culverts, pole holes) shall be inspected prior to moving or working on them to reduce the potential for injury to wildlife. Supplies or equipment that cannot be inspected or from which animals could not be removed shall be capped or otherwise covered at the end of each work day. Old piping or other supplies that have been left open, shall not be capped until inspected and any species found in it allowed to escape. Ramping shall be provided in open trenches when necessary. If an animal is found entrapped in supplies or equipment, such as a pipe section, the supplies or equipment shall be avoided and the animal(s) left to leave on its own accord, except as otherwise authorized by CDFW.

38. All steep-walled trenches or excavations used during construction shall be inspected twice daily (early morning and evening) to protect against wildlife entrapment. If wildlife are located in the trench or excavation, the Environmental Surveyor shall be called immediately to remove them if they cannot escape unimpeded.

39. Large amounts of fugitive dust could interfere with photosynthesis. Fugitive dust created during clearing, grading, earth-moving, excavation or other construction activities will be controlled by regular watering. At all times, fugitive dust emissions will be controlled by limiting on-site vehicle speed to 15 mph.

- Section 7.1.5 – Maintenance of access roads shall consist of:

41. Repair of erosion by grading, addition of fill, and compacting. In each case of repair, the total area of disturbance shall be minimized by careful access and use of appropriately sized equipment. Repairs shall be done after preactivity surveys conducted by the Environmental Surveyor and in accordance with the recommendations regarding construction monitoring and relevant protocols. Consideration should be given to source of erosion problem, when source is within control of SDG&E.

42. Vegetation control through grading should be used only where the vegetation obscures the inspection of facilities, access may be entirely lost, or the threat of Facility failure or fire hazard exists. The graded access road area should not exceed 12 feet wide on straight portions (radius turns may be slightly wider) (See Figure 23: Operational Protocol Diagram – Construction Near Streams/Access Road Maintenance).

43. Mowing habitat can be an effective method for protecting the vegetative understory while at the same time creating access to a work area. Mowing should be used when permanent access is not required since, with time, total revegetation

is expected. If mowing is in response to a permanent access need, but the alternative of grading is undesirable because of downstream siltation potential, it should be recognized that periodic mowing will be necessary to maintain permanent access.

44. Maintenance work on access roads should not expand the existing road bed (See Figure 23: Operational Protocol Diagram – Construction Near Streams/Access Road Maintenance).

- Section 7.1.8 – Survey Work

54. Brush clearing for foot paths or line-of-sight cutting is not allowed from March through August in sensitive habitats without prior approval from the Environmental Surveyor, who will ensure that activity does not adversely affect a sensitive species.

55. SDG&E survey personnel must keep vehicles on existing access roads. No clearing of brush for panel point placement is allowed from March through August without prior approval from the Environmental Surveyor. Maintenance work on access roads should not expand the existing road bed (See Figure 23: Operational Protocol Diagram – Construction Near Streams/Access Road Maintenance).

- Section 7.1.9 – Emergency Repairs

57. During a system emergency, unnecessary carelessness which results in environmental damage is prohibited.

- Section 7.1.11 – Vernal Pool Complexes

64. For all construction activities occurring adjacent to vernal pools, SDG&E will work with a qualified biologist having local experience with vernal pool resources, to site roads or facilities in a manner that avoids potential impacts to vernal pools. (See Figure 4: Operational Protocol Diagram – Placement of Overhead Poles.) All vernal pools adjacent to the project footprint, plus a five-foot buffer (where feasible), will be fenced with orange safety fencing to ensure no people or equipment impact the vernal pools during construction activities. A silt fence will be installed along the base of the roadway to prevent increased erosion or sedimentation during construction in vernal pool areas. Gravel bags will be placed along the bottom of the fence to minimize erosion or sedimentation into vernal pools, and removed upon completion of construction.

66. During modifications and maintenance of existing access roads, or the creation of new access roads adjacent to vernal pools, a qualified biological monitor, having local experience with vernal pool resources, shall oversee and monitor all such activities occurring adjacent to vernal pools. The biological monitor shall:

- Hold a pre-construction meeting to brief the crew on the location of sensitive resources and construction boundaries.

- Direct installation of protective fencing to prevent encroachment of people or equipment into vernal pools during construction activities and to ensure that no fence posts are placed within vernal pools.

- If it is not feasible to place protective fencing without impacting vernal pools, during the dry season sandbags will be placed along the perimeter of the vernal pool and removed post-construction (or prior to the on-set of the wet season).

An environmental surveyor will ensure that fencing to protect vernal pools is appropriately placed and is maintained in good condition for the duration of the project. (See Figure 4: Operational Protocol Diagram – Placement of Overhead Poles.)

69. To the extent feasible, all construction equipment shall be fueled and maintained at least 100 feet from the nearest vernal pools.

- If work is scheduled to occur within suitable burrowing owl habitat (as determined in the Biological Technical Report), burrowing owl surveys will be conducted prior to construction consistent with the Take Avoidance Surveys described in the 2012 Staff Report on Burrowing Owl Mitigation. If burrowing owls are identified within approximately 150 meters (492 feet) of the proposed work area, SDG&E will implement the recommendations of said staff report to avoid impacts to burrowing owl.

- SDG&E will mitigate for impacts to Quino checkerspot butterfly (QCB) (*Euphydryas editha quino*) in accordance with the applicable ratio in SDG&E's Low Effect Habitat Conservation Plan for QCB.

- SDG&E will conduct protocol-level surveys prior to construction to determine the presence or absence of San Diego and/or Riverside fairy shrimp species in suitable habitat in the following locations: Main Street Staging Yard, within the access roads and proposed work areas between pole locations 1 through 78, and within the access roads and proposed work areas between pole locations 96 through 117. If the surveys identify the presence of San Diego and/or Riverside fairy shrimp species, Proposed Project-related activities will avoid impacts to occupied habitat when wet as determined by the aquatic or biological monitor. If surveys cannot be feasibly completed prior to construction in these locations, Proposed Project-related activities will avoid suitable habitat for San Diego and/or Riverside fairy shrimp when soils are wet as determined by the aquatic or biological monitor.

- Temporary and permanent impacts to federally and state-listed species and their habitats will be mitigated at a one-to-one ratio, or as required by the USFWS and the CDFW.

- A qualified archaeologist will monitor ground-disturbing activities within all cultural resource sites identified within Proposed Project impact areas. The requirements for archaeological monitoring will be noted on the construction plans. The archaeologist's duties will include monitoring, evaluation of any finds, analysis and curation of materials, and preparation of a monitoring results report conforming to Archaeological Resource Management Reports guidelines.

- Prior to construction, all SDG&E, contractor, and subcontractor Proposed Project personnel will receive training regarding the appropriate work practices necessary to effectively implement the Project Design Features and Ordinary Construction/Operating Restrictions relating to cultural resources to comply with the applicable environmental laws and regulations, including the potential for exposing subsurface cultural resources and paleontological resources and to recognize possible buried resources. This training will include presentation of the procedures to be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains, as well as of paleontological resources.

- In the event that cultural resources are discovered, SDG&E's Cultural Resource Specialist and Environmental Project Manager will be contacted at the time of discovery. SDG&E's Cultural Resource Specialist will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities in the vicinity of the discovery are allowed to resume. For significant cultural resources, a Research Design and Data Recovery Program will be prepared and carried out to mitigate impacts. All collected cultural remains will be cleaned, cataloged, and permanently curated with an appropriate institution. All artifacts will be analyzed to identify function and chronology as they relate to the prehistory or history of the area. Faunal material will be identified as to species.

- Prior to ground-disturbing activities within CA-SDI-9976, SDG&E will prepare and implement a formal treatment plan and a full data recovery program that includes procedures for protection and avoidance, evaluation and treatment, and the curation of any cultural materials collected.

- A qualified paleontologist will attend pre-construction meetings, as needed, to consult with the excavation contractor concerning excavation schedules, paleontological field techniques, and safety issues. A qualified paleontologist is defined as an individual with a Master of Science or Doctor of Philosophy in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology and paleontology of San Diego County, and who has worked as a paleontological mitigation project supervisor in the region for at least one year. The requirements for paleontological monitoring will be noted on the construction plans. A paleontological monitor, defined as an individual who has experience in the collection and salvage of fossil materials, will work under the direction of a qualified paleontologist and will be on site to observe excavation operations that involve the original cutting of previously undisturbed deposits with high paleontological resource sensitivity (i.e.,

Mission Valley Formation and the upper sandstone unit of the Otay Formation). In the event that fossils are encountered, the paleontologist will have the authority to divert or temporarily halt construction activities in the area of discovery to allow recovery of fossil remains in a timely fashion. The paleontologist will contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The paleontologist, in consultation with SDG&E's Cultural Resource Specialist, will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities are allowed to resume. Because of the potential for recovery of small fossil remains, it may be necessary to set up a screen-washing operation on site. If fossils are discovered, the paleontologist (or paleontological monitor) will recover them, along with pertinent stratigraphic data. Because of the potential for recovery of small fossil remains, recovery of bulk sedimentary-matrix samples for off-site wet screening from specific strata may be necessary, as determined in the field. Fossil remains collected during monitoring and salvage will be cleaned, repaired, sorted, cataloged, and deposited in a scientific institution with permanent paleontological collections. A final summary report will be completed that outlines the results of the recovery program. The report will discuss the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.

- Soil testing for metals contamination will be conducted for all excavation sites within 500 feet of the former Brown Field Bombing Range Formerly Used Defense Site (FUDS-) eligible property boundary. In addition, an Unanticipated Soil Contamination Handling Plan will be prepared to address the procedures for any discovery of contaminated soil encountered during testing or excavation activities. This plan will contain guidelines for the characterization, any necessary removal, transport, and disposal of impacted soil requiring excavation during construction. The plan will also emphasize that all activities within or in close proximity to contaminated areas will adhere to all applicable environmental and hazardous waste laws and regulations.

- Prior to construction, all SDG&E, contractor, and subcontractor Proposed Project personnel will receive training on the work practices necessary for effective implementation of the Project Design Features and Ordinary Construction/Operating Restrictions to comply with applicable hazardous materials-related laws and regulations.

- If soil that is stained, discolored, odorous, or otherwise suspect is encountered in other areas of the Proposed Project during excavation activities, work will be stopped and a qualified Environmental Professional will evaluate. Soil will be either sampled in place and analyzed to determine appropriate management options or containerized and managed in accordance with all applicable federal, state, and local regulations. Based on the results of observation and analysis, SDG&E will decide whether to remove or avoid the contaminated soil.

- Prior to construction, SDG&E will evaluate the unexploded ordnance (UXO) risk along the power line alignment and at the proposed work areas between pole locations 63 and

95 within the former Brown Field Bombing Range FUDS-eligible property boundary. A qualified UXO technician will conduct a surface sweep by walking along the power line route, visually surveying the work areas for any evidence of munitions debris or munitions hazards. All potential munitions hazards will be marked on the Proposed Project alignment sheets and recorded using a Global Positioning System device. The UXO technician will inform SDG&E of munitions findings and direct them to shift the work areas appropriately to a non-hazardous area. A UXO technician will be on site during all earth-disturbing activities in potential munitions hazards areas to monitor the work and ensure that hazardous areas are avoided. If a UXO is discovered during Proposed Project-related construction activities, excavation activities in the vicinity will cease and the on-site UXO technician will assess the condition of the munition. Upon discovery, the San Diego County Sheriff's Bomb/Arson Unit will be notified. Excavation activities in the vicinity will not resume until the UXO has been removed.

- SDG&E will implement the Construction Fire Prevention Plan for the Proposed Project provided in Attachment 4.8-B: Construction Fire Prevention Plan, which includes the following:

  - a description of the procedures for minimizing fire potential
  - the requirements of Title 14, California Forest Practice Rules of the CCR
  - relevant components of the SDG&E Wildland Fire Prevention and Fire Safety Plan
  - the firefighting equipment (e.g., shovels, pulaskis, and backpack pumps) that must be maintained on site and in vehicles for the duration of construction
  - the appropriate timing and use of fire-protective mats or shields during grinding and welding operations
  - emergency response and reporting procedures
  - relevant emergency contact information

- Jurisdictional drainage crossings will be avoided during periods of high flow, as determined by the aquatic resource monitor. After each rain event, drainage crossings will be evaluated for surface flows and ponding by the aquatic resource monitor to determine if a dry-out period of 24 hours or more (full avoidance of the crossing) is required to avoid substantial impacts to the drainage crossings. If it becomes necessary to place a temporary bridge over a jurisdictional drainage during construction, the bridge will be placed over the drainage, spanning the channel from bank to bank, avoiding the ordinary high water mark, and allowing natural flow to continue downstream. An aquatic resource monitor will be present to provide guidance to the work crew during placement and removal of the bridge to avoid substantial impacts to the drainage.

- Vernal pools (as defined in Attachment 4.9-A: Jurisdictional Delineation Report) will be avoided by Proposed Project-related activities, with the exception of driving through dry vernal pools. Steel plates may be placed to span over vernal pools to allow Proposed Project related activities, where feasible.

- When a pole location or staging yard is adjacent to a drainage feature that is jurisdictional for the United States Army Corps of Engineers, RWQCB, and CDFW, the following constraints will apply:

    - An aquatic resource monitor, with the authority to stop work if necessary, will be present on site as needed to ensure minimization and avoidance measures are complied with. Monitoring will be conducted in particular during BMP installation, spot checking during construction, and at the end of construction.

    - Prior to construction activity, the aquatic resource monitor or SDG&E Environmental will provide an Environmental Tailgate to the crew to go over the construction restrictions.

    - If work is conducted at pole locations during the rainy season (October 1 through May 1), before scheduling Proposed Project activities, the weather forecast will be monitored. Work will not be scheduled if a greater than 40 percent chance of rain is forecasted during the time needed to complete the activity. If rain does occur unexpectedly during Proposed Project activities, the site will be secured using BMPs (e.g., fiber rolls) to prevent sedimentation and erosion.

    - Stockpiled material will not be placed within the jurisdictional drainage or where it could be washed into the jurisdictional drainage feature during a storm event. If left overnight, the stockpile will be covered with plastic and secured.

    - Any vegetation that has been mowed or trimmed to provide access or work space will not be discharged within a jurisdictional drainage or placed where it could be washed into a jurisdictional drainage during a storm event.

    - Appropriate BMPs will be used before, during, and after construction to prevent erosion and off-site sedimentation.

    - At the end of construction, all unused construction material and debris will be removed and disposed of appropriately.

- SDG&E will meet and confer with the City of San Diego to discuss temporarily deviating from the requirements of the Noise Ordinance as necessary.

- Functional mufflers will be maintained on all equipment to minimize noise levels during construction.

- A site-specific Blasting Plan will be prepared at each pole location where the use of explosives is anticipated. The Blasting Plan will identify the type and quantity of explosive material required, describe the timing of the blasts if multiple are required, and quantify the impulsive noise and groundborne vibration that will result. The resulting impulsive noise levels and groundborne vibration amplitudes will be compared against the applicable thresholds. If the blasting process is expected to exceed these thresholds, additional control measures (e.g., covering the charge area with soil, rubber mats, and/or

steel plates; and/or reducing the charge size) will be implemented if feasible. If these control measures do not reduce the noise and vibration to below applicable thresholds, SDG&E will meet and confer with the County to discuss the planned blasting operation.

3.11 APPLICANT-PROPOSED MEASURES

Because the Proposed Project will not result in any significant impacts, no APMs have been proposed.