D.3 Biological Resources

Technical information for this section was obtained from the Biological Resources Technical Report for the Miguel-Mission 230 kV #2 Project (Essex, 2002; updated by RECON, 2004), and a quino checkerspot butterfly (*Euphydryas editha quino*) protocol survey report (Essex, 2003a). Additional information regarding vernal pools was provided by Essex (2003b), RECON (2003), and HELIX Environmental Planning, Inc. (HELIX, 2003).

This section is organized as follows: Section D.3.1 describes the environmental setting for the Proposed Project, and Section D.3.2 defines relevant regulations, plans, and standards for biological resources. Section D.3.3 presents the environmental impacts of the Proposed Project, and Section D.3.4 describes the setting and impacts for the alternatives to the Proposed Project. Section D.3.5 addresses the impacts of the No Project Alternative, and Section D.3.6 presents the Mitigation Monitoring, Compliance, and Reporting table for biological resources. In addition, Appendix 3 to this EIR is the biological resources technical report, which includes additional detail and description.

D.3.1 Environmental Setting for the Proposed Project

This section summarizes the existing biological resources within the project area. The project area consists of the SDG&E ROW and an area approximately 500 feet wide (approximately 250 feet on either side of the existing ROW centerline). Also included are various existing access road alignments located outside the SDG&E utility alignment.

D.3.1.1 Regional Overview

The Proposed Project is located entirely within San Diego County and passes through the Cities of San Diego and Santee, MCAS Miramar, and unincorporated areas in the eastern portion of the County. San Diego County is a biologically diverse region that supports rare and declining native habitats, numerous federal and State-listed plant and animal species, and an increasing amount of federally designated critical habitat for listed species. The environmental setting of the project area generally encompasses rivers, ephemeral drainages, vernal pools, riparian habitats, grasslands, and large expanses of native coastal sage scrub and chaparral. The ROW passes through a section of Mission Trails Regional Park and the San Diego National Wildlife Refuge Otay-Sweetwater Unit. It also passes within the boundaries of multi-jurisdictional regional habitat conservation plans administered by the County of San Diego, the City of San Diego, MCAS Miramar, and SDG&E to conserve threatened and endangered species and their habitats in these regions. In addition, the Proposed Project would cross or be in the vicinity of highways, roads, and commercial and residential areas (Essex, 2002, and RECON, 2004).

D.3.1.2 Special Habitat Management Areas

The project area is located near or adjacent to, or crosses through, several county and city parks and water features that represent islands of biological diversity. The following are brief discussions of a few of the areas with the potential to be affected by the project.

- **San Diego National Wildlife Refuge Otay-Sweetwater Unit.** Located in Chula Vista, the project area crosses through this wildlife refuge that supports a variety of habitats including Diegan coastal sage scrub, chaparral, oak woodland, and freshwater marsh. This inland refuge is home to many

sensitive species, including the least Bell's vireo (*Vireo bellii pusillus*), coastal California gnatcatcher (*Polioptila californica californica*), quino checkerspot butterfly, and San Diego horned lizard (*Phrynosoma coronatum blainvillei*). The approved refuge boundary for this refuge is 44,000 acres, and 8,000 acres for the Vernal Pools Unit (USFWS, 2003).

- **Sweetwater Reservoir.** Sweetwater Reservoir is located near Spring Valley, north of the Miguel Substation and north and west of the project area. Land adjoining this reservoir supports the endangered least Bell's vireo, the threatened coastal California gnatcatcher, as well as vernal pools and a number of indigenous plant species.
- **Lake Jennings and Lake Jennings County Park.** Lake Jennings County Park is located near Lakeside and lies east of the project area. Fish, such as largemouth bass (*Micropterus salmoides*), rainbow trout (*Oncorhynchus mykiss*), channel catfish (*Ictalurus punctatus*), and bluegill (*Lepomis machrochirus mystacalis*) are stocked in the lake. Wildlife within the park include desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus bennettii*), California ground squirrel (*Spermophilus beecheyi*), western harvest mice (*Reithrodontomys megalotis*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), opossum (*Didelphis marsupialis*), striped and spotted skunk (*Mephitis mephitis* and *Spilogale puforius*, respectively), and mule deer (*Odocoileus hemionus fuliginata*). The lake supports flocks of waterfowl during the winter, and the chaparral is home to the coastal cactus wren (*Campylorhynchus brunnicapillus*). Other birds include wrentits, red-tailed hawk (*Buteo jamaicensis*), and several sparrow species.
- **Louis A. Stelzer County Park.** Louis A. Stelzer County Park is located north of Lakeside and north of the project area. This 314-acre park supports indigenous plant species within sensitive habitats including riparian and chaparral. Species found within the park include oak (*Quercus* sp.), sycamore (*Platanus* sp.), and sage (*Salvia* sp.).
- **Santee Lakes Recreation Preserve.** The Proposed Project passes through the Santee Lakes Recreation Preserve, located in the City of Santee. It is a recreational facility owned and operated by the Padre Dam Municipal Water District (PDMWD) made up of seven lakes that contain approximately 82 surface acres of water. The Preserve primarily stocks and supports fish such as largemouth bass, rainbow trout, channel catfish, bluegill, and carp (*Cyprinus carpio*).
- **Mission Trails Regional Park.** The project area passes through the nearly 5,800-acre Mission Trails Regional Park, west of the City of Santee. Mission Trails Regional Park ranges in elevation from approximately 400 to 1,590 feet above mean sea level. Habitat within this park includes chaparral, oak woodland, grasslands, coastal sage scrub, as well as riparian and aquatic habitats. Flora in the higher elevations of the park include chamise (*Adenostoma fasciculatum*), Ramona lilac (*Ceanothus tomentosus)*, scrub oak (*Quercus berberidifolia*), redberry (*Rhamnus crocea*), and mission manzanita (*Xylococcus bicolor)*. The lower elevations support California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), laurel sumac (*Malosma laurina*), San Diego County viguiera (*Viguiera laciniata*), lemonadeberry (*Rhus integrifolia*), and flat-topped buckwheat (*Eriogonum fasciculatum*). The San Diego River runs through the park creating a riparian community that supports sycamore, cottonwood, willow, and mulefat. The park supports an abundance of wildlife including numerous birds, lizards, insects, and snakes. Mule deer, mountain lion (*Puma concolor*), coyote, and gray fox (*Urocyon cinereoargenteus*) can also be found within the park.

D.3.1.3 Vegetation Communities and Sensitive Habitats within the Project Area

Description and quantification of vegetation communities within the project area were completed by Essex (2002) and updated by RECON (2004) based upon field surveys. Aerial photographs were used

to aid vegetation mapping and digital vegetation maps of the project area were produced. Vegetation communities found within the project area include upland communities such as coast live oak woodland, coastal sage scrub, maritime succulent scrub, baccharis scrub, chamise chaparral, southern mixed chaparral, native grassland, non-native grassland, and eucalyptus woodland; and wetland or riparian communities such as southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern willow scrub, mule fat scrub, freshwater marsh, and disturbed wetland. Ruderal vegetation, disturbed land and developed land are also present within the project area. Table D.3-1 indicates the acreages of the existing vegetation communities/habitats within the project area.

Coast Live Oak Woodland

Coast live oak woodland is an evergreen woodland community dominated by coast live oak (*Quercus agrifolia*), which may reach a height of 35 to 80 feet. It is generally found on north facing slopes and shaded ravines often with a poorly developed shrub understory including toyon (*Heteromeles arbutifolia*), currant (*Ribes* sp.), poison oak (*Toxicodendron diversilobum*), and laurel sumac. Within the project area, coast live oak woodland occurs south of Sweetwater River along an access road, southwest of the junction of Interstate 8 and Olde Highway 80, and along a drainage in Mission Trails Regional Park.

Coastal Sage Scrub

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils. Dominated by drought-deciduous shrub species with relatively shallow root systems and open canopies, coastal sage scrub communities often contain a substantial herbaceous component. Four distinct coastal sage scrub geographical associations (northern, central, Venturan, and Diegan) are recognized along the California coast. Despite the fact that it has been greatly reduced from its historical distribution (Oberbauer, 1996), the Diegan association is the dominant coastal sage scrub in coastal Southern California from Los Angeles to Baja California, Mexico (Holland, 1986). This habitat also supports a number of rare, threatened, or endangered species.

Coastal sage scrub is the predominant sage scrub vegetation community within the project area and in the immediate project vicinity. This vegetation community is characterized by California sagebrush, flat-topped buckwheat, white sage (*Salvia apiana*), and laurel sumac. The coastal sage scrub community is found on most of the lower slopes and mid-elevation portions of hillsides in the immediate project vicinity.

Wildlife species most often associated with coastal sage scrub include several upland bird species, such as California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculatus*), California thrasher (*Toxostoma redivivum*), Berwick's wren (*Thryomanes bewickii*), and western scrub-jay

Table D.3-1. Existing Vegetation Communities within the Project Area

Vegetation Type	Acreage
Coast live oak woodland	4.9
Coastal sage scrub (including disturbed)	1,586.3
Maritime succulent scrub	38.2
Baccharis scrub	3.3
Chamise chaparral	95.3
Southern mixed chaparral	68.4
Native grassland	1.8
Non-native grassland	124.6
Eucalyptus woodland	6.4
Southern coast live oak riparian forest	6.4
Southern cottonwood-willow riparian forest	16.8
Southern willow scrub	22.3
Mule fat scrub	5.3
Freshwater marsh	0.5
Disturbed wetland	1.0
Ruderal vegetation	51.0
Disturbed land	3.6
Developed land	532.5
Total	2,568.6

Source: RECON, 2004

(*Aphelocoma californica*). The federally-listed as threatened coastal California gnatcatcher is strongly associated with sage scrub habitats. Scrub habitats also provide cover and forage for mammal species, including California ground squirrel and desert cottontail.

Maritime Succulent Scrub

Maritime succulent scrub is a low, open scrub community that is dominated by a mixture of stem and leaf succulent species and drought deciduous species that also occur within sage scrub communities. This vegetation community occurs on thin rocky or sandy soils, on steep slopes of coastal headlands and bluffs. Maritime succulent scrub is restricted to within a few miles of the coast. Species commonly found in this vegetation community include jojoba (*Simmondsia chinensis*), San Diego barrel cactus (*Ferocactus viridescens*), velvet cactus (*Bergerocactus emoryi*), prickly pear cactus (*Opuntia littoralis*), cliff spurge (*Euphorbia misera*), and dudleya (*Dudleya* spp.; Beauchamp, 1986). Within the project area, maritime succulent scrub occurs near the Los Coches Substation.

Baccharis Scrub

Baccharis scrub is an open to dense scrub community dominated by broom baccharis (*Baccharis sarothroides*) and coyote bush (*Baccharis pilularis* ssp. *consanguinea*). This is most likely a seral community which, in the absence of continued disturbance such as periodic flooding, will be replaced by later seral scrub or woodland communities. Baccharis scrub occurs in the Cottonwood at Rancho San Diego Golf Club adjacent to the Sweetwater River.

Chamise Chaparral

Chamise chaparral is tall, forming monotypic or mixed stands dominated by chamise. Chamise is well adapted to fire, being the only chaparral species that regenerates from fire from both an underground root crown and the production of seeds (Rundel, 1986). It often dominates at low elevations and on xeric south facing slopes with 60 to 90 percent canopy cover but may also intergrade with coastal sage scrub (Rundel, 1986).

The chamise chaparral within the project area and in the immediate project vicinity is generally confined to higher elevations and steeper slopes and in Mission Trails Regional Park, north of Los Coches Substation, and north of Miguel Substation. Within the project area, this community is dominated by chamise, ceanothus (*Ceanothus* sp.), and manzanita (*Arctostaphylos* sp.).

Southern Mixed Chaparral

Southern mixed chaparral is composed of broad-leaved sclerophyllous shrubs such as chamise, ceanothus, and scrub oak that can grow to 6 to 10 feet tall and form dense often nearly impenetrable stands with poorly developed understories. Southern mixed chaparral occurs south of State Route 52 within the Mission Trails Regional Park and both north and south of Clairemont Mesa Boulevard and Calle de Vida.

Native Grassland

Native grasslands are one of the most heavily impacted plant communities within California. Due in large part to agricultural and ranching activities, nearly all of the historical native grasslands in California have been displaced by exotic non-native grasslands. Native grasslands are rare and considered sensitive because of their limited distribution and because they support sensitive plant and animal species. A small patch of native grasslands occur northeast of the Elliot Substation.

Non-Native Grassland

Non-native grassland areas in the past may have supported native grassland but have been invaded by exotic annuals. The flora of non-native grasslands include a dense to sparse cover of introduced grasses and often numerous species of showy-flowered, non-native and native, annual forbs. This habitat is often associated with deep, fine-textured soils with some clay content. Introduction of exotic grasses in California due to grazing and agricultural practices coupled with severe droughts has contributed to the conversion of native grasslands to non-native grassland (Jackson, 1985). Whereas native grasslands support mostly perennials such as needlegrass (*Nasella* sp.), non-native grasslands (including those onsite) support mostly annuals. Regardless of species composition, all grasslands throughout the County serve as valuable raptor foraging habitat and have additional value due to the native forbs they often support.

Most of the non-native grasslands in the project area and in the immediate project vicinity area appear to be abandoned agricultural and pasture land that are now dominated by ripgut grass (*Bromus diandrus*), slender oat (*Avena barbata*), wild oat (*Avena fatua*), and black mustard (*Brassica nigra*). Non-native grasslands are common and widespread throughout California, and the characteristic wildlife species that occupy them are of equally wide distribution. Typical grassland wildlife species include the California vole (*Microtus californicus*), western meadowlark (*Sturnella neglecta*), mourning dove (*Zenaida macroura*), red-tailed hawk, and house finch (*Carpodacus mexicanus*).

Eucalyptus Woodland

Eucalyptus woodlands are dominated by several species of eucalyptus (*Eucalyptus* spp.). Generally these trees were planted as a windbreak, and for aesthetic and horticultural purposes around houses and other developed areas. Many eucalyptus species, however, have become naturalized and have invaded the natural riparian areas. The understory within well established groves is usually very sparse due to the closed canopy and allelopathic nature of the leaf litter. As a wildlife habitat, these woodlands provide excellent nesting sites for a variety of raptors. During winter migrations, a large variety of warblers may be found feeding on the insects that are attracted to the eucalyptus flowers. The sparse understory offers only limited wildlife habitat. Eucalyptus woodlands occur southwest of the Elliot Substation and north of the Mission Substation.

Southern Coast Live Oak Riparian Forest

Southern coast live oak riparian forest is an open to locally dense evergreen sclerophyllous riparian woodland that is dominated by coast live oak. This community occurs on fine-grained alluvial soils on the floodplains along large streams in the canyons and valleys of coastal southern California (Holland, 1986). This vegetation community occurs along drainages and rivers throughout the project area.

Southern Cottonwood-Willow Riparian Forest

This vegetation community consists of open, broadleafed, winter-deciduous riparian forests dominated by Fremont cottonwood (*Populus fremontii*), black cottonwood (*P. trichocarpa*), and several tree willows. Understories of southern cottonwood-willow riparian forest are typically made up of shrubby willows (Holland, 1986). This vegetation community occurs along drainages and rivers throughout the project area.

Southern Willow Scrub

Southern willow scrub consists of dense, broadleaved, winter-deciduous stands of trees dominated by shrubby willows (*Salix* sp.) in association with mule fat (*Baccharis salicifolia*). This habitat occurs on loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest (Holland, 1986). Southern willow scrub occurs along the San Diego and Sweetwater rivers as well as within many drainages throughout the project area.

Mule Fat Scrub

Mule fat scrub is a depauperate, tall, herbaceous, riparian scrub community dominated by mule fat and interspersed with shrubby willows. This habitat occurs along intermittent stream channels with a coarse substrate and moderate depth to the water table. Mule fat scrub is maintained by frequent flooding, the absence of which would lead to a riparian woodland or forest (Holland, 1986). Within the project area, mule fat scrub can be found near Miguel Substation, and along drainages south of State Route 94 and east of Santo Road.

Freshwater Marsh

Freshwater marsh is dominated by perennial, emergent monocots, which reach a height of 12 to 15 feet. This vegetation type occurs along the coast and in coastal valleys near river mouths and around the margins of lakes and springs. These areas are permanently flooded by fresh water yet lack a significant current (Holland, 1986). This wetland habitat is naturally limited and remaining acreage provides important habitat for migrant birds as well as performing many other functions such as floodwater conveyance and water quality control. A small patch of freshwater marsh occurs near the Miguel Substation.

Disturbed Wetlands

This community is dominated by exotic wetland species that have invaded sites that have been previously disturbed or undergone periodic disturbances such that these invasive non-natives have displaced the native wetland flora. Characteristic species include giant reed (*Arundo donax*), ox tongue (*Picris echioides*), cocklebur (*Xanthium strumarium* var. *canadense*), and tamarisk (*Tamarix* sp.; Holland, 1986). Disturbed wetlands occur along a drainage within the Cottonwood at Rancho San Diego Golf Club, west of Willow Glen Drive.

Ruderal Vegetation

Ruderal vegetation areas are dominated by invasive non-native forbs (herbaceous, non-grass species) and have adopted to a regime of frequent disturbances. Ruderal vegetation in the project area is typically located in abandoned agricultural fields, graded lots, and road shoulders, and is dominated by broadleaf exotic annuals, such as black mustard, Russian thistle (*Salsola tragus*), fennel (*Foeniculum vulgar*), and to a lesser degree, by exotic annual grasses. Small patches of ruderal vegetation are abundant throughout the project area.

Disturbed Land

Disturbed habitat includes land cleared of vegetation (dirt roads, for example) or contains a preponderance of non-native plant species. Disturbed land encompasses all areas within the project area or in the

immediate project vicinity that have been previously disturbed and have not returned to native habitat. This category includes orchards (both active and abandoned) and agriculture. The orchards in the project area or in the immediate project vicinity occur mostly on flat or slightly sloped areas and consist primarily of citrus and avocados. Old or abandoned orchards are located within or near the project area, south of the San Diego River. An abandoned citrus orchard is located south of State Route 94 (Campo Road). A large commercial avocado orchard is located on the east side of the existing study area south of Interstate 8.

Developed Land

Developed land is where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained. Developed land occurs throughout the project area.

D.3.1.4 Special Status Plant and Animal Species within the Project Area

Special-status species are protected under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA). Plants may also be listed by the California Native Plant Society (CNPS) as rare or endangered in California or covered under the SDG&E NCCP. The term "special-status species" used in this section is defined as including species that are:

- Listed, proposed for listing, or candidates for listing, as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.11 for wildlife; 50 CFR 17.12 for plants; 67 FR 40658 for candidates and various notices in the Federal Register for proposed species)
- Listed, or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (Title 14, California Code of Regulations, Section 670.5)
- Identified by the California Department of Fish and Game (CDFG) as species of concern (fish and wildlife species that do not have State or federal threatened or endangered status but may still be threatened with extinction)
- Protected by the Migratory Bird Treat Act (MBTA; USC 703-712; CH. 128; July 13, 1918; 40 Stat. 755, as amended)
- Covered in the SDG&E Natural Community Conservation Plan (NCCP)
- Listed in the CNPS inventory (CNPS, 1999)
- Considered to otherwise meet the definition of rare, threatened, or endangered under the California Environmental Quality Act

To determine if special-status species inhabit the project area, the following actions were completed:

- Database searches (CNPS, California Natural Diversity Database records [CNDDB], City of San Diego Habitat Conservation Plan/Multiple Species Conservation Program [HCP/MSCP], San Diego County MSCP), literature reviews, examination of aerial photographs (scale approximately 1:3,500), and informational investigations obtained from the USFWS and CDFG were compiled.
- Reconnaissance and habitat assessment surveys were conducted in February, March, and April 2002, and again in April and September 2003, to determine habitat suitability for plant and wildlife species for each of the special-status species determined to have the potential to occur within the project area.

- A complete floristic survey of the project area, as required by the USFWS and CDFG, was completed during spring and summer 2002 and updated in spring and summer 2003 to determine whether sensitive plant species or rare natural plant communities occur within the project area. An area approximately 500 feet wide (approximately 250 feet on either side of the existing ROW centerline) as well as access roads to be used during construction activities and long-term operations were surveyed on foot and with the use of vehicles. Meandering transects were also conducted on foot through the surrounding habitat within the 500-foot survey corridor. In some areas, due to steep terrain and narrow ridgelines, it may not have been possible to extend the survey coverage to 500 feet (Essex, 2002; and RECON, 2004).
- USFWS protocol surveys were conducted for the endangered quino checkerspot butterfly and the threatened coastal California gnatcatcher as these species occur in the area. Non-protocol surveys for the endangered San Diego fairy shrimp were conducted. No quino checkerspot butterfly were observed within the project area during the protocol-level surveys in 2002 or 2003. A single, adult male quino checkerspot butterfly, however, was observed within the project area, likely dispersing through the area, during a 2003 rare plant survey as shown on Figure 4-7 of the biological technical report (see EIR Appendix 3) (RECON, 2004). San Diego fairy shrimp were observed in several vernal pools and access road depressions as shown in Figures 4-35 and 4-37 through 4-40 of the biological technical report (see EIR Appendix 3) (RECON, 2004). Several coastal California gnatcatchers were observed within the project area during protocol-level surveys in 2002 and 2003 as shown in many of the figures found in the biological technical report (RECON, 2004).

Sensitive Vegetation Communities

Several of the vegetation communities listed above are considered sensitive or have special status due to their natural rarity and their decline in the area due to development and/or the number of sensitive plant or animal species dependent upon them. Sensitive habitats also include those regulated by the federal government under the Clean Water Act (i.e., jurisdictional wetlands and "waters of the U.S.") or the Endangered Species Act (i.e., site-specific designated critical habitat areas for federally listed wildlife species); and those regulated by CDFG under Section 1600 of the California Fish and Game Code.

Coast live oak woodland, coastal sage scrub, maritime succulent scrub, baccharis scrub, chamise chaparral, southern mixed chaparral, native grassland, non-native grassland, southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern willow scrub, mule fat scrub, freshwater marsh, disturbed wetland, San Diego mesa hardpan vernal pool, and San Diego mesa claypan vernal pool are rare natural plant communities found within the project area that local jurisdictions such as the County of San Diego, and others consider to be sensitive.

Special-Status Plant Species

A description of all special-status plant species observed or with the potential to occur within the project area including federal and State listing status are summarized in Table D.3-2.

Rare Native Plant Communities

The San Diego mesa hardpan vernal pools inhabited by San Diego fairy shrimp (*Branchinecta sandiegonensis*) are endemic to the region and typically found on coastal mesas in western San Diego County. San Diego mesa hardpan vernal pools are typically found clustered in complexes surrounded by chamise chaparral, annual grasslands, or coastal sage scrub vegetation (USFWS, 2000). Three such complexes of vernal pools are known to occur along the existing project ROW. One such complex is

Table D.3-2. Sensitive Plant Species and Rare Natural Plant Communities Potentially Occurring or Observed in the Miguel-Mission Project Area

Species	Listing Status Federal / State	CNPS List Code	Presence	Potential for Occurrence
San Diego thornmint *Acanthomintha ilicifolia*	FT, SE, RSS, NE	1B, R-E-D, 2-3-2	Observed	High
San Diego ambrosia *Ambrosia pumila*	FE, RSS, NE	1B, R-E-D, 3-3-2	Observed	High
Otay manzanita *Arctostaphylos otayenis*	RSS	1B, R-E-D, 3-2-3	Observed	High
Dean's milk vetch *Astragalus deanei*	RSS	1B, R-E-D, 3-3-3	Observed	High
Orcutt's brodiaea *Brodiaea orcuttii*	RSS	1B, R-E-D, 1-3-2	None observed	Moderate
Dunn's mariposa lily *Calochortus dunnii*	SR, RSS	1B, R-E-D, 2-2-2	Observed	High
Slender-pod jewel flower *Caulanthus stenocarpus*	RSS	—	None observed	Moderate to High
Lakeside ceanothus *Ceanothus cyaneus*	RSS	1B, R-E-D, 2-3-2	None observed	Moderate
Variegated dudleya *Dudleya variegata*	RSS	1B, R-E-D, 2-2-2	Observed	High
Palmer's ericameria *Ericameria palmeri* ssp. *palmeri*	RSS	2, R-E-D, 3-2-1	None observed	Moderate to High
San Diego button-celery *Eryngium aristulatum* var. *parishii*	FE, SE, RSS	1B, R-E-D, 2-3-2	None observed	Moderate
San Diego barrel cactus *Ferocactus viridescens*	RSS	2, R-E-D, 1-3-1	Observed	High
Otay tarplant *Deinandra (Hemizonia) conjugens*	FT, SE, RSS	1B, R-E-D, 3-3-2	Observed	High
Gander's pitcher sage *Lepechinia ganderi*	RSS	1B, R-E-D, 3-1-2	None observed	Low to Moderate
Willowy monardella *Monardella linoides* ssp. *viminea*	FE, SE, RSS	1B, R-E-D, 2-3-2	None observed	Moderate to High
San Diego golden star *Muilla clevelandii*	RSS	1B, R-E-D, 2-3-2	Observed	High
Little mousetail *Myosurus minimus* ssp. *apus*	RSS	3, R-E-D, 2-3-2	None observed	Moderate to High
Dehesa beargrass *Nolina interrata*	SE, RSS	1B, R-E-D, 3-3-2	None observed	Low
Snake cholla *Opuntia parryi* var. *serpentina*	RSS	1B, R-E-D, 3-3-2	None observed	Moderate
San Diego mesa mint *Pogogyne abramsii*	FE, SE, RSS	1B, R-E-D, 2-3-3	None observed	Moderate to High
Munz's sage *Salvia munzii*	—	2, R-E-D, 2-2-1	Observed	High
San Diego County viguiera *Viguiera laciniata*	—	4, R-E-D, 1-2-1	Observed	High
San Diego Mesa Hardpan vernal pool	—	—	Observed	High
San Diego Mesa Claypan vernal pool	—	—	None observed	Low

Source: RECON, 2004.
(continued)

Table D.3-2. Sensitive Plant Species and Rare Natural Plant Communities Potentially Occurring or Observed in the Miguel-Mission Project Area

Notes:

San Diego Gas & Electric (SDG&E) Natural Community Conservation Plan (NCCP)

NE = Considered a narrow endemic species under SDG&E's NCCP
RSS = Regionally sensitive species covered in SDG&E's NCCP

U.S. Fish and Wildlife Service (USFWS)

FE = Federally listed, endangered: species in danger of extinction throughout a significant portion of its range
FT = Federally listed, threatened: species likely to become endangered within the foreseeable future
FPE = Federally proposed endangered

California Department of Fish and Game (CDFG)

SE = State listed, endangered
ST = State listed, threatened
SR = State listed, rare

California Native Plant Society (CNPS)

List 1B = Plants rare, threatened, or endangered in California and elsewhere
List 2 = Plants rare, threatened, or endangered in California but more common elsewhere
List 3 = Plants about which more information is needed
List 4 = Plants of limited distribution: a watch list
R = Rarity: 1 = rare but in sufficient number that extinction potential is low; 2 = distribution in a limited number of occurrences; 3 = distribution in highly restricted occurrences or present in small numbers
E = Endangerment: 1 = not endangered; 2 = endangered in a portion of range; 3 = endangered throughout range
D = Distribution: 1 = more or less widespread outside California; 2 = rare outside California; 3 = endemic to California

located at the south end of Santo Road near the project area. This complex of vernal pools, east of Interstate 15 and south of Santo Road, has been designated by the USFWS as critical habitat for the San Diego fairy shrimp (USFWS, 2000) and is within the Murphy Canyon Naval Family Housing Vernal Pool Preserve. The second complex is found on a mesa top northwest of Qualcomm Stadium in Mission Valley. The third vernal pool complex is south of Calle de Vida Road, immediately south of Mission Trails Regional Park.

Special-Status Animal Species

A description of all special-status wildlife species observed or with the potential to occur within the project area including federal and State listing status are summarized in Table D.3-3.

In addition to the species listed in Table D.3-3, special consideration was given to the observation of raptor nests. During reconnaissance, habitat assessment, and focused surveys, several active nests for the red-tailed hawk, Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), and common raven (*Corvus corax*) were observed on various tower structures and trees within or near the project area.

Regional Wildlife Corridors

Wildlife corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations (Beier and Loe, 1992). Wildlife corridors are considered sensitive by resource and conservation agencies.

Table D.3-3. Sensitive Animal Species

Scientific Name / Common Name	Status	Presence	Potential for Occurrence
MAMMALS			
Lepus californicus bennettii / San Diego black-tailed jackrabbit	CSSC, RSS	Present	High
Neotoma lepida intermedia / San Diego desert woodrat	CSSC, RSS	Present	High
Odocoileus hemionus fuliginata / Southern mule deer	RSS	Present	High
Puma concolor / Mountain lion	RSS	Present	High
BIRDS			
Accipiter cooperii / Cooper's hawk	CSSC, RSS	Present	High
Agelaius tricolor / Tricolored blackbird	CSSC, RSS	None observed	Low
Aimophila ruficeps canescens / Southern California rufous-crowned sparrow	CSSC, RSS	Present	High
Ammodramus savannarum / Grasshopper sparrow	RSS	Present	High
Aquila chrysaetos / Golden eagle	BEPA, SFP, RSS	Present	High
Campylorhynchus brunneicapillus / Coastal cactus wren	CSSC, RSS, NE	Present	High
Circus cyaneus / Northern harrier	CSSC, RSS	Present	High
Polioptila californica californica / Coastal California gnatcatcher	FT, CSSC, RSS	Present	High
Athene cunicularia hypugea / Western burrowing owl	CSSC, RSS	None observed	Low
Eremphila alpestris actia / California horned lark	CSSC	Present	High
Vireo bellii pusillus / Least Bell's vireo	FE, SE, RSS	Present	High
REPTILES			
Cnemidophorus hyperythrus beldingi / Orange-throated whiptail	CSSC, RSS	Present	High
Crotalus exsul / Northern red-diamond rattlesnake	CSSC, RSS	None observed	Moderate
Lichanura trivirgata roseofusca / Coastal rosy boa	RSS	Present	High
Phrynosoma coronatum blainvillei / San Diego horned lizard	CSSC, RSS	Present	High
Salvadora hexalepis virgultea / Coast patch-nosed snake	CSSC, RSS	None observed	Moderate
AMPHIBIANS			
Bufo microscaphus californicus / Arroyo southwestern toad	FE, CSSC, RSS	None observed	Low
Spea hammondii / Western spadefoot toad	CSSC, RSS	Present	High
CRUSTACEANS			
Branchinecta sandiegonensis / San Diego fairy shrimp	FE, RSS	Present	High
TERRESTRIAL INSECTS			
Euphydryas editha quino / Quino checkerspot butterfly	FE	Present	High
Lycaena hermes / Hermes copper	RSS	Present	High

Source: RECON, 2004.
CSSC = California species of special concern BEPA = Bald Eagle Protection Area SFP = State fully protected
Note: See explanation of remaining codes following Table D.3-2.

Much of the existing Miguel-Mission 230 kV transmission corridor intersects with, or acts as, wildlife movement corridors. In many areas where the transmission corridor is adjacent to development, the transmission corridor itself connects urban canyons and other open space, allowing wildlife to travel unhindered through otherwise developed areas. The presence of several bodies of water in the vicinity of the project area, including Santee Lakes Recreation Preserve, Lake Jennings, and Sweetwater Reservoir, as well as the San Diego and Sweetwater Rivers, attract migratory bird species as part of the Pacific Flyway. These waterbodies provide rest and forage areas for numerous birds during the migratory seasons.

Terrestrial wildlife species tend to travel along natural drainages that provide protective cover from predators, as well as a source of forage. There are several natural drainage features within the project area

that may facilitate wildlife movement through the region, including the San Diego River, an unnamed tributary to the San Diego River in Sycamore Canyon, Sweetwater River, an unnamed tributary to the Sweetwater River in Steele Canyon, Los Coches Creek, and Forrester Creek.

D.3.1.5 Sensitive Biological Resources Documented in Project Area

This section complements preceding sections and biological resources appendices on species occurrence by providing additional detail and CNDDB record information within specific segments of the project area. As described in Section B.1.1 and Table B-1, the Proposed Project consists of three principal components: (1) the addition of a bundled 230 kV circuit between the Miguel and Mission Substations, including replacement or modification of existing structures; (2) relocation of the existing 138 kV and 69 kV circuits onto new poles within the existing ROW; and (3) modifications to the Miguel and Mission Substations to accommodate the new 230 kV transmission line. For the purposes of this site description, the project area is divided into three segments:

- Miguel Substation to Los Coches Substation
- Los Coches Substation to Fanita Junction
- Fanita Junction to Mission Substation.

Miguel Substation to Los Coches Substation

This segment of the project area traverses terrain that support the following vegetation/habitat communities: coastal sage scrub, chamise chaparral, southern mixed chaparral, coast live oak woodland, non-native grassland, mule fat scrub, freshwater marsh, southern willow scrub, southern cottonwood-willow riparian forest, southern coast live oak riparian forest, baccharis scrub, maritime succulent scrub, disturbed wetland, ruderal, and developed land.

Sensitive plant species observed within this segment of the project area include: Otay tarplant, San Diego barrel cactus, variegated dudleya, Dunn's mariposa lily, San Diego golden star, Munz's sage, San Diego ambrosia, Dean's milk-vetch, Otay manzanita, and San Diego County viguiera.

Sensitive animal species observed within this segment of the project area include: coastal California gnatcatcher, Cooper's hawk, southern California rufous-crowned sparrow, grasshopper sparrow, northern harrier, least Bell's vireo, coastal cactus wren, San Diego black-tailed jackrabbit, southern mule deer, quino checkerspot butterfly, San Diego horned lizard, and orange-throated whiptail.

In addition, nests supporting the red-tailed hawk, red-shouldered hawk, Cooper's hawk, and common raven were observed within this segment of the project area. Habitat suitable for the Hermes copper butterfly was also observed.

Los Coches Substation to Fanita Junction

This segment of the project area traverses areas that support the following vegetation/habitat communities: coastal sage scrub, maritime succulent scrub, chamise chaparral, vernal pools, southern willow scrub, southern cottonwood-willow riparian forest, southern coast live oak riparian forest, non-native grassland, ruderal, and developed land.

Sensitive plant species observed within this segment of the project area include: San Diego golden star, San Diego barrel cactus, and variegated dudleya.

Sensitive animal species observed within this segment of the project area include: coastal California gnatcatcher, southern California rufous-crowned sparrow, coastal cactus wren, Cooper's hawk, grasshopper sparrow, golden eagle, red-tailed hawk, orange-throated whiptail, San Diego horned lizard, San Diego desert woodrat, San Diego black-tailed jackrabbit, southern mule deer, and mountain lion.

In addition, nests supporting the red-tailed hawk were observed within this segment of the project area. Habitat suitable for the Hermes copper butterfly was also observed within this segment of the project area.

Fanita Junction to Mission Substation

This segment of the project area traverses areas that support the following vegetation/habitat communities: coastal sage scrub, chamise chaparral, southern mixed chaparral, coast live oak woodland, native grassland, southern cottonwood-willow riparian forest, mulefat scrub, southern willow scrub, vernal pools, eucalyptus woodlands, non-native grassland, disturbed habitat, ruderal, and developed land.

Sensitive plant species observed within this segment of the project area include: variegated dudleya, San Diego barrel cactus, San Diego thornmint, and San Diego golden star.

Sensitive animal species observed within this segment of the project area include: coastal California gnatcatcher, southern California rufous-crowned sparrow, northern harrier, California horned lark, coastal cactus wren, western spadefoot toad, San Diego fairy shrimp, orange-throated whiptail, Hermes copper butterfly, and southern mule deer.

In addition, nests supporting the red-tailed hawk, were observed within this segment of the project area. Habitat suitable for the Hermes copper butterfly was also observed within this segment of the project area as were the vernal pool preserves.

D.3.2 Applicable Regulations, Plans, and Standards

D.3.2.1 Federal Regulations

Federal Endangered Species Act. The Federal Endangered Species Act (FESA) designates and provides for protection of threatened and endangered plants and animals and their critical habitats. Procedures for addressing federal-listed species follow two principal pathways, both of which require consultation with the USFWS, which administers the Act for all terrestrial species. The first pathway (FESA, Section 10(a) Incidental Take Permit) is set up for situations where a non-federal government entity, such as SDG&E (or where no federal nexus exists) must resolve potential adverse impacts to species protected under the Act. The second pathway (FESA, Section 7 Consultation) and involves projects with a federal connection or requirement; typically these are projects where a federal lead agency is sponsoring or permitting the Proposed Project. For example, a permit from the U.S. Army Corps of Engineers (Corps) may be required if a project will result in wetland impacts. In these instances, the federal lead agency (e.g., the Corps) initiates and coordinates the following steps:

- Informal consultation with USFWS to establish a list of target species
- Preparation of biological assessment assessing potential for the project to adversely affect listed species
- Coordination between State and federal biological resource agencies to assess impacts/proposed mitigation
- Development of appropriate mitigation for all significant impacts on federally listed species.

The USFWS ultimately issues a final Biological Opinion (BO) on whether the project will affect the federally listed species. A Section 10(a) Incidental Take Permit may be necessary when the "taking" or harming of a species is incidental to the lawful operation of a project.

Clean Water Act. The Clean Water Act (CWA) is intended to restore and maintain the quality and biological integrity of the nation's waters. It prohibits the discharge of pollutants into "waters of the United States (U.S.)" without a permit (i.e., a National Pollutant Discharge Elimination System [NPDES] permit) and is administered by the Environmental Protection Agency (EPA). By issuing NPDES permits, the EPA can regulate the discharge of pollutants to protect water quality. Section 404 of the CWA provides that whenever any person dredges or places any fill material (e.g., while undertaking road or bridge construction, or streambed alteration) from or into "waters of the U.S." including without limitation wetlands, streams, and bays, a permit is required from the Corps.

The definition of "waters of the U.S." includes wetland 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 CFR 328.3 7b). The EPA also has authority over wetlands and may override a Corps permit. Substantial impacts to wetlands may require an individual permit. Projects that minimally affect wetlands may be eligible for one of the Nationwide Permits that require less review than an individual permit.

Executive Order 11990, Section 1(a) established a policy of "no net loss" of wetlands. Mitigation for wetland impacts may include restoration and/or offsite replacement or enhancement. However, the characteristics of the restored or enhanced wetlands must be equal to or better than those of the affected wetlands.

Migratory Bird Treaty Act. The MBTA implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping unless expressly authorized in the regulations or by permit. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code. Enforcement of the act is carried out by USFWS law enforcement officials, while Fish and Game Codes are enforced by CDFG wardens.

Bald and Golden Eagle Protection Act. Title 16, United States Code, Section 668, prohibits the take or possession of eagles, parts, eggs, or nests without a permit issued by the USFWS.

D.3.2.2 State Laws and Regulations

California Endangered Species Act. Sections 2050 through 2116 of the California Fish and Game Code outline the protection provided to California's rare, endangered, and threatened species. Section 2080 of the California Fish and Game Code prohibits the taking of plants and animals listed under the authority of the California Endangered Species Act (CESA) of 1984. Individual animal species declared to be threatened or endangered by the California Fish and Game Commission are listed in Title 14 of the California Code of Regulations under Section 670.5. In addition, the Native Plant Protection Act of 1977 (Fish and Game Code Section 1900 et seq.) gives the CDFG authority to designate State endangered, threatened, and rare plants and provides specific protection measures for identified populations.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. The CEQA Guidelines, Section 15065 ("Mandatory Findings of Significance") requires that a reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guide-

lines Section 15380 (”Rare or endangered species”) provides for assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the CNPS’s Lists 1A, 1B, and 2 would typically be considered under CEQA.

California Streambed Alteration Notification/Agreement. Sections 1601-1606 of the California Fish and Game Code require that a Streambed Alteration Application be submitted to the CDFG for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The CDFG reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFG and the Applicant is the Streambed Alteration Agreement. Often, projects that require a Streambed Alteration Agreement also require a permit from the Corps under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

California Fish and Game Code. Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles and amphibians, and fish. Species that are fully protected by these Sections may not be taken or possessed at any time. CDFG cannot issue permits or licenses that authorize the “take” of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Native Plant Protection Act. The Native Plant Protection Act (NPPA; Fish and Game Code Sections 1900-1913) was created with the intent to “preserve, protect and enhance rare and endangered plants in this State”. The Fish and Game Commission has the authority to designate native plants as “endangered” or “rare” and to protect endangered and rare plants from being taken. The CESA provides further protection for rare and endangered plant species, but the NPPA remains part of the Fish and Game Code.

D.3.2.3 Regional Policies, Plans, and Regulations

Natural Community Conservation Planning Act. Regional conservation planning strategies under CESA providing protection, preservation, and conservation of listed and candidate species, their habitats, natural communities and natural resources while continuing to allow appropriate development and growth within the State are authorized and implemented under the Natural Community Conservation Planning Act of 1991. These strategies are designed to provide protection and conservation to threatened and endangered species through multi-species, habitat-based, and long-term approaches that both ensures the conservation of, and net benefits to, the affected species and the economic growth of the community in which they exist. Under this program, USFWS, CDFG, and other stakeholders have evaluated, or are evaluating, the distribution and extent of sensitive habitats and target sensitive plant and animal species in California. The ultimate goal of these studies is to develop interconnected ecosystem preserves. Development and implementation of regional multi-species preserve systems is intended to protect viable populations of key sensitive plant and animal species and their habitat while accommodating continued economic development and quality of life for residents of the region.

SDG&E Natural Community Conservation Plan. In December 1995, USFWS and CDFG approved SDG&E’s Subregional Natural Community Conservation Plan (NCCP) that addresses potential impacts to sensitive resources associated with SDG&E’s ongoing installation, use, maintenance, and repair of its gas and electric systems and typical expansion to those systems throughout much of SDG&E’s existing service territory. As a part of the NCCP, SDG&E has been issued an incidental take permit

(Permit PRT-809637) by USFWS and CDFG for 110 covered species. The NCCP was developed following the multiple species and habitat conservation planning approach. The NCCP includes mitigation measures and operational protocols designed to avoid potential impacts and to provide appropriate mitigation where such impacts are unavoidable to ensure the protection and conservation of listed and covered species. These Operational Protocols are in an attachment to the NCCP. The project falls within the area where SDG&E's utility operations are governed by the NCCP, with the exception of the areas on MCAS Miramar. For this project, SDG&E has adopted the mitigation measures and operational protocols contained in the NCCP as well as project-specific protocols.

While the project area is located within areas included within the County of San Diego and the City of San Diego's multiple species habitat conservation plans, SDG&E's public utility activities, such as the Proposed Project, are not subject to the regulatory jurisdiction of such local governments and, therefore, are not governed by the terms and conditions of such plans. However, in implementing its NCCP for the project, SDG&E would coordinate with the County of San Diego and the City of San Diego to achieve consistency to the extent feasible. Where consistency is not feasible, SDG&E's NCCP provides for appropriate protocols and mitigation measures to protect natural community and natural resource values in these conservation-planning areas.

San Diego County Adopted Metro-Lakeside-Jamul Segment of the Multiple Species Conservation Program (MSCP) Subarea Plan. The goal of the MSCP is to maintain and enhance biological diversity in the region and maintain viable populations of endangered, threatened, and key sensitive species and their habitats. Not only are endangered and threatened species protected by the MSCP, but the residents of the community will benefit from this preservation of the natural environment as well. Planning for the 172,000-acre preserve (98,379 acres are in the unincorporated areas of the County) also promotes regional economic viability through streamlining the land use permit process — a significant benefit to landowners.

The Metro-Lakeside-Jamul Segment differs from the other segments in that it did not include large areas where landowner, County, USFWS, and CDFG agreements were reached on areas to be preserved and developed. This segment of the Plan will be implemented over time with public land acquisitions from willing sellers and through the application of the Biological Mitigation Ordinance (BMO) to private development projects. The pre-approved mitigation area generally illustrates where the ultimate preserved habitat areas are expected to occur.

City of San Diego's Adopted MSCP Subarea Plan. The City of San Diego's MSCP Subarea Plan has been prepared pursuant to the general outline developed by the USFWS and CDFG to meet the requirements of the NCCP Act of 1991. This Subarea Plan forms the basis for the Implementing Agreement that is the contract between the City of San Diego and the USFWS and CDFG that ensures implementation of the plan and thereby allows the City of San Diego to issue take permits at the local level. This Subarea Plan is also consistent with the County's MSCP and qualifies as a stand-alone document to implement the City's portion of the MSCP Preserve.

The City of San Diego Multi-Habitat Planning Area (MHPA) was developed by the City of San Diego in cooperation with the USFWS and CDFG, property owners, developers, and environmental groups. The Preserve Design Criteria contained in the MSCP and the City Council adopted criteria for the creation of the MHPA were used as guides in the development of the City's MHPA. The MHPA delineates core biological resource areas and corridors targeted for conservation. Within the MHPA limited development may occur. The City's MHPA is approximately 56,831 acres. Approximately 90 percent (52,012 acres) of the MHPA lands will be preserved for biological purposes.

Unadopted MSCP Subarea Plan for the City of Santee. This Subarea Plan encompasses 10,650 acres of which 57 percent is developed and 43 percent (4,600 acres) is undeveloped. The draft Subarea Plan, which seeks to conserve at least 2,300 acres of primary biological core areas, has been submitted for wildlife agency review and approval.

MCAS Miramar Integrated Natural Resources Management Plan. The MCAS Miramar adopted the Integrated Natural Resources Management Plan (INRMP) as required by the Sikes Act of 1997 in coordination with the USFWS, CDFG, and the Corps. The primary purpose of the INRMP is to integrate MCAS Miramar's land use needs with the management and conservation of natural resources and ensure compliance with the NEPA, FESA, and CWA.

D.3.3 Environmental Impacts and Mitigation Measures

D.3.3.1 Definition and Use of Significance Criteria

Significance criteria for impacts to biological resources are taken from §15065 and Appendix G of the CEQA Guidelines, and §21083 of the Public Resources Code. Significant impacts to biological resources are not limited to projects affecting only State or federally listed endangered species. A species that is federal- or State-listed will also be considered rare or endangered if it can be shown to meet the following criteria (CEQA Guidelines, §15380):

- The survival and reproduction of a species in the wild are in immediate jeopardy from one or more causes
- It is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens
- It is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Vegetation Impacts Significance Criteria

The following significance criteria were used to assess the significance of potential project impacts to affected vegetation resources. All impacts that are defined as significant in §15065 of the CEQA Appendix G Guidelines have been designated as significant in this EIR. Significant impacts are those that would result in:

- Substantial disturbance of a special status species or its habitat
- Substantial reduction in the numbers of a special status plant species
- Indirect loss of a special status plant species or its habitat
- Filling or degradation of wetlands and waters subject to the jurisdiction of the Corps pursuant to the federal CWA (no net loss of wetlands)
- Creation of substantial barriers for dispersal of plant species
- Compaction of soils, clearing of vegetation, or other activities that substantially increase erosion and sedimentation
- Introduction of non-native plant species or facilitating the dispersal of existing populations of non-native plants.

Wildlife Impacts Significance Criteria

Evaluation of impacts to wildlife resources considers the magnitude of impact, the rarity of the resource, and susceptibility of the resource to impacts. Significance criteria for wildlife impacts are defined in §15065 of the CEQA Appendix G Guidelines. A project is considered to have potentially significant impacts to wildlife if it would:

- Substantially diminish habitat for fish or wildlife species
- Cause a fish or wildlife population to drop below self-sustaining levels
- Interfere substantially with the movement of any resident or migratory fish or wildlife species
- Reduce the number or restrict the range of a rare or endangered species
- Adversely affect species under the protection of the MBTA (burrowing owls, nesting raptors, passerines)
- Threaten to eliminate an animal community
- Fill or degrade wetlands and waters subject to the jurisdiction of the Corps pursuant to the federal CWA (no net loss of wetlands)
- Substantially affect a rare or endangered species or the habitat of that species.

Bird Electrocution/Collision Significance Criteria

A project is considered to have significant impacts relating to bird electrocution/collisions if:

- The project would interfere substantially with the movement of any resident or migratory wildlife species
- The project would adversely affect species under the protection of the MBTA.

D.3.3.2 Project Protocols

SDG&E would implement numerous design measures, construction procedures, operation procedures, maintenance procedures, and policies that would avoid or minimize the project's potential impacts to biological resources, along with other environmentally important resources. Table D.3-4 presents the Project Protocols relevant to biological resources, as presented in the biological resources section of the PEA. The Project Protocols would reduce the effects of the project construction, operation, and maintenance on biological resources. In some cases, these Project Protocols have been supplemented with additional requirements presented in mitigation measures, as defined in Table D.3-12.

Table D.3-4. Project Protocols – Biological Resources

PP No.	Description
1	Except when not feasible, all project vehicle movement would be restricted to existing access roads and access roads constructed as a part of the project and determined and marked by SDG&E in advance for the contractor, contractor-acquired accesses, or public roads. New access road construction for the project would be allowed year-round. However, when feasible every effort would be made to avoid constructing roads during the nesting season. When it is not feasible to keep vehicles on existing access roads or to avoid constructing new access roads during the nesting, breeding, or flight season, SDG&E would perform three site surveys in the area where the work is to occur. The surveys would be performed to determine presence or absence of endangered nesting birds, or other endangered species in the work area. Endangered species for which surveys would be performed include; the least Bell's vireo, arroyo southwestern toad, coastal California gnatcatcher, Quino checkerspot butterfly, San Diego fairy shrimp, southern California rufous-crowned sparrow, grasshopper sparrow, coastal cactus wren, Cooper's hawk, golden eagle, western burrowing owl, orange-throated whiptail, and San Diego horned lizard. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on reasonable mitigation measures to avoid or minimize for potential impacts, prior to vehicle use off existing access roads or the construction of new access roads. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by Protocols 20, 21, 42, 43, and 44. Parking or driving underneath oak trees is not allowed in order to protect root structures. In addition to regular watering to control fugitive dust created during clearing, grading, earth-moving, excavation, and other construction activities which could interfere with plant photosynthesis, a 15 mile per hour speed limit shall be observed on dirt access roads to allow reptiles and small mammals to disperse and reduce dust.

Table D.3-4. Project Protocols – Biological Resources

PP No.	Description
2	The area limits of project construction and survey activities would be predetermined based on the temporary and permanent disturbance areas noted on the final design engineering drawings to minimize environmental effects arising from the project, with activity restricted to and confined within those limits. Survey personnel shall keep survey vehicles on existing roads. During project surveying activities, brush clearing for footpaths, line-of-sight cutting, and land surveying panel point placement in sensitive habitat would require prior approval from the project biological resource monitor in conformance with Protocol 20 and 21. Hiking off roads or paths for survey data collection is allowed year-round as long as other Protocols are met. Stringing of new wire and reconductoring for the project would be allowed year-round in sensitive habitats if the conductor is not allowed to drag on the ground or in brush and all vehicles used during stringing remain on project access roads. Where stringing requires that conductor drag on the brush or ground or vehicles leave project access roads, SDG&E would perform three site surveys to determine presence or absence of endangered nesting birds or other endangered species in the work area. Endangered species for which surveys would be performed include; the least Bell's vireo, arroyo southwestern toad, coastal California gnatcatcher, Quino checkerspot butterfly, San Diego fairy shrimp, Cooper's hawk, southern California rufous-crowned sparrow, grasshopper sparrow, golden eagle, coastal cactus wren, western burrowing owl, orange-throated whiptail, and San Diego horned lizard. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on reasonable and feasible mitigation measures for potential impacts, prior to dragging wire on the ground or through brush, or taking vehicles off project access roads. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by Protocols 20, 21, 42, 43, and 44. No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate limits of survey or construction activity where any sensitive cultural resources or wildlife habitats are encountered in the field.
6	Potential hydrologic impacts would be minimized through the use of BMPs, such as water bars, silt fences, staked straw bales, and mulching and seeding of all disturbed areas. These measures would be designed to minimize ponding, eliminate flood hazards, and avoid erosion and siltation into any creeks, streams, rivers, or bodies of water.
7	Prior to construction, all SDG&E, contractor and subcontractor project personnel would receive training regarding the appropriate work practices necessary to effectively implement the Project Protocols and to comply with the applicable environmental laws and regulations including, without limitation, hazardous materials spill prevention and response measures, erosion control, dust suppression and appropriate wildlife avoidance, impact minimization procedures, and SWPPP BMPs. To assist in this effort, the training would address: (a) federal, State, local, and tribal laws regarding antiquities, fossils, plants and wildlife, including collection and removal; (b) the importance of these resources and the purpose and necessity of protecting them; and (c) methods for protecting sensitive cultural, paleontological, and ecological resources.
11	To the extent feasible, access roads would be built at right angles to the streambeds and washes. Where it is not feasible for access roads to cross at right angles, SDG&E would limit roads constructed parallel to streambeds or washes to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." or waters of the State. Streambed crossings and roads constructed parallel to streambeds would require review and approval of necessary permits from the USACOE, CDFG, and RWQCB. Culverts would be installed where needed for right angle crossings, but rock crossings would be utilized across most right angle drainage crossings. All construction and maintenance activities would be conducted in a manner that would minimize disturbance to vegetation, drainage channels and streambanks (e.g., towers would not be located within a stream channel, construction activities would avoid sensitive features). Prior to construction in streambeds and washes, SDG&E would perform three pre-activity surveys to determine the presence or absence of endangered riparian species. Endangered riparian species for which surveys would be performed include the least Bell's vireo, arroyo southwestern toad, and San Diego fairy shrimp. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by Protocols 20, 21, 42, 43, and 44. In addition, road construction would include dust-control measures (e.g., watering of construction areas to suppress dust) during construction in sensitive areas, as required. Erosion control during construction in the form of intermittent check dams and culverts should also be considered to prevent alteration to natural drainage patterns and prevent siltation.
12	In the construction, operation, and maintenance of the project, SDG&E would comply with all applicable environmental laws and regulations, including, without limitation, those regulating and protecting air quality, water quality, wildlife and its habitat, and cultural resources.
14	Littering is not allowed. Project personnel would not deposit or leave any food or waste in the project area, and no biodegradable or nonbiodegradable debris would remain in the ROW following completion of construction.

Table D.3-4. Project Protocols – Biological Resources

PP No.	Description
17	Prior to construction, the boundaries of plant populations designated as sensitive by USFWS or CDFG, cultural resources, and other resources designated sensitive by SDG&E and the resource agencies would be clearly delineated with clearly visible flagging or fencing. The flagging and fencing shall remain in place for the duration of construction. Flagged areas would be avoided to the extent practicable during construction and maintenance activities. Where these areas cannot be avoided, focused surveys for covered plant species shall be performed in conformance with Protocol 21, below, and the responsible resource agency(s) would be consulted for appropriate mitigation and/or revegetation measures prior to disturbance. Notification of the presence of any covered plant species to be removed in the work area would occur within ten (10) working days prior to the project activity, during which time the USFWS or CDFG may remove such plant(s) or recommend measures to minimize or reduce the take. If neither USFWS nor CDFG has removed such plant(s) within the ten (10) working days following the written notice, SDG&E may proceed with the work and cause a take of such plant(s), if minimization measures are not implemented.
20	Brush clearing around any project facilities (e.g., towers, poles, substations) for fire protection, visual inspection or project surveying, in areas which have been previously cleared or maintained within a two-year or shorter period shall not require a pre-activity survey. In areas not cleared or maintained within a two-year period, brush clearing shall not be conducted during the breeding season (March through August) without a pre-activity survey for vegetation containing active nests, burrows, or dens. The pre-activity survey performed by the onsite biological resource monitor would make sure that the vegetation to be cleared contains no active migratory bird nests, burrows, or active dens prior to clearing. If occupied migratory bird nests are present, fire protection or visual inspection brush clearing work would be avoided until after the nesting season, or until the nest becomes inactive. If no nests are observed, clearing may proceed. Where burrows or dens are identified in the reconnaissance-level survey, soil in the brush clearing area would be sufficiently dry before clearing activities occur to prevent mechanical damage to burrows that may be present.
21	In the event that SDG&E identifies a (threatened, endangered, or species of special concern) species of plant not previously identified in surveys for the project within the 10- foot radius for brush clearing around project facilities, SDG&E shall 1) notify the USFWS (for ESA listed plants) and CDFG (for CESA listed plants) in writing of that plant's location and identity and 2) the nature of the project activity that may affect the plant. Notification would occur within ten (10) working days prior to the project activity, during which time the USFWS or CDFG may remove such plant(s) or recommend measures to minimize or reduce the take. If neither USFWS nor CDFG has removed such plant(s) within the ten (10) working days following the written notice, SDG&E may proceed with the brush clearing for fire protection purposes or visual inspection and cause a take of such plant(s), if minimization measures are not implemented.
22	No wildlife, including rattlesnakes, may be harmed except to protect life and limb. Firearms shall be prohibited in all project areas except for those used by security personnel.
24	Feeding of wildlife is not allowed.
25	Project personnel are not allowed to bring pets to any project area in order to minimize harassment or killing of wildlife and to prevent the introduction of destructive animal diseases to native wildlife populations.
26	Plant or wildlife species may not be collected for pets or any other reason.
27	Project supplies or equipment (e.g., foundation excavations, steel pole sections) where wildlife could hide 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 wildlife cannot escape or be removed, shall be covered or otherwise made secure from wildlife intrusion or entrapment at the end of each work day. Supplies or excavations that have been left open shall not be covered or otherwise made secure from wildlife intrusion or entrapment until inspected and any wildlife found therein allowed to escape. If any wildlife are found entrapped in supplies, equipment or excavations, those supplies, equipment or excavations shall be avoided and the wildlife left to leave on their own accord, except as otherwise authorized by the USFWS and CDFG. Where project construction activities require that supplies, equipment or excavations proceed despite the presence of hiding or entrapped wildlife, SDG&E may request that the USFWS and CDFG allow the onsite biological resource monitor, or a recognized wildlife rescue agency (such as Project Wildlife) to remove the wildlife and transport them safely to other suitable habitats.
28	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 is located in the trench or excavation, the onsite biological resource monitor shall be called immediately to remove them if they cannot escape unimpeded. The onsite biological resource monitor would make the required contacts with the USFWS and CDFG resource personnel and obtain verbal approval prior to removing any entrapped wildlife. If the biological resource monitor is not qualified to remove the entrapped wildlife, a recognized wildlife rescue agency (such as Project Wildlife) may be employed to remove the wildlife and transport them safely to other suitable habitats.

Table D.3-4. Project Protocols – Biological Resources

PP No.	Description
29	SDG&E, its contractors and subcontractors, and their respective project personnel, shall refer all environmental issues, including wildlife relocation, sick or dead wildlife, hazardous waste or questions about environmental impacts to the onsite biological construction monitors. Experts in wildlife handling (such as Project Wildlife) may need to be brought in by the project biological construction field monitor for assistance with wildlife relocations.
30	Emergency repairs may be required during the construction and maintenance of the project to address situations (e.g., downed lines, slides, slumps, major subsidence, etc.) that potentially or immediately threaten the integrity of the project facilities. During emergency repairs the Project Protocols shall be followed to the fullest extent practicable. Once the emergency has been abated, any unavoidable environmental damage would be reported to the project biological construction monitor, who would promptly submit a written report of such impacts to the USFWS and CDFG and any other government agencies having jurisdiction over the emergency actions. If required by the government agencies, the biological construction monitor would develop a reasonable and feasible mitigation plan consistent with the Project Protocols and any permits previously issued for the project by the governmental agencies.
31	When critical habitat exists on either side of the existing ROW, SDG&E would not oppose dedication by the fee owner of the underlying property for conservation purposes, provided that it shall acknowledge and except them from SDG&E's continued use of the property in a manner sufficient to reliably install, operate, maintain, and repair its existing and necessary public utility facilities within the ROW.
34	In areas where soils and vegetation are particularly sensitive to disturbance (as defined in this PEA), existing access roads would be repaired only in areas where they are otherwise impassable or unsafe.
35	To minimize ground disturbance impacts to streams in steep canyon areas, access roads in these areas would avoid streambed crossings to the extent feasible. Where it is not feasible for access roads to avoid streambed crossings in steep canyons, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, SDG&E would limit roads constructed parallel to streambeds, to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the USACOE, CDFG, and RWQCB.
36	Environmentally sensitive tree trimming locations for the project would be identified in SDG&E's existing vegetation management tree trim database utilized by tree trim contractors. The biological field construction monitor shall be contacted prior to trimming in environmentally sensitive areas. Whenever feasible, trees in environmentally sensitive areas, such as areas of riparian or native scrub vegetation, would be scheduled for trimming during non-sensitive (i.e., outside breeding or nesting) times. Where trees cannot be trimmed during non-sensitive times, SDG&E would perform three site surveys to determine presence or absence of endangered nesting bird species in riparian or native scrub vegetation. Endangered nesting bird species for which surveys would be performed include the least Bell's vireo, coastal California gnatcatcher, southern California rufous-crowned sparrow, grasshopper sparrow, coastal cactus wren, Cooper's hawk, and golden eagle. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on mitigation measures for potential impacts, prior to tree trimming in environmentally sensitive areas. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by Protocol 43. Where riparian areas with overstory vegetation are crossed, tree removal (i.e., clear-cut) widths would be varied where feasible to minimize visual landscape contrast and to maintain habitat diversity at established wildlife corridor edges. Where tree removal widths cannot be varied, SDG&E would consult with the USFWS and CDFG to develop alternative tree removal options that could reasonably maintain edge diversity.
37	All new access roads constructed as part of the project that are not required as permanent access for future project maintenance and operation would be permanently closed. Where required, roads would be permanently closed using the most effective feasible and least environmentally damaging methods appropriate to that area with the concurrence of the underlying landowner and the governmental agency having jurisdiction (e.g., stockpiling and replacing topsoil or rock replacement). This would limit new or improved accessibility into the area. Mowing of vegetation can be an effective method for protecting the vegetative understory while at the same time creating access to the 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 would be necessary to maintain permanent access. The project biological construction monitor shall conduct checks on mowing procedures to ensure that mowing for temporary or permanent access roads is limited to a 12-foot-wide area on straight portions of the road (slightly wider on turns), and that the mowing height is no less than 4 inches from finished grade.

Table D.3-4. Project Protocols – Biological Resources

PP No.	Description
39	To the extent feasible, where the construction of access roads would disturb sensitive features, the route of the access road would be adjusted to avoid such impacts. Examples of sensitive features include, without limitation, cultural sites, identified habitats of endangered species, and streambeds. As another alternative, construction and maintenance traffic would use existing roads or cross-country access routes (including the ROW), which avoid impacts to the sensitive feature. To minimize ground disturbance, construction traffic routes must be clearly marked with temporary markers, such as easily visible flagging. The authorized officer or landowner must approve construction routes, or other means of avoidance, before use. When it is not feasible to avoid constructing access roads in sensitive habitats, SDG&E would perform three site pre-activity surveys to determine the presence or absence of endangered or threatened species, or species of special concern, in those sensitive habitats. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on reasonable and feasible mitigation measures for potential impacts, prior to access road construction. However, these pre-activity surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by Protocols 20, 21 42, 43, and 44. Where it is not feasible for access roads to avoid streambed crossings in steep canyons, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, SDG&E would limit roads constructed parallel to streambeds, to a maximum length of 500 feet at any, one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the USACOE, CDFG, and RWQCB. When it is not feasible to avoid cultural sites, SDG&E would consult with the appropriate federal and State SHPO and local (indigenous Native American tribes) cultural resource agencies and specialists to either develop alternative construction techniques to avoid cultural resources or develop appropriate mitigation measures. Appropriate mitigation measures may include actions such as removal and cataloging and/or removal and relocation.
40	To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any new access roads (i.e., bladed road) or cross-country route (i.e., unbladed route) would follow the landform contours in designated areas to the extent feasible, providing that such alignment does not additionally impact sensitive features (e.g., riparian area, habitat of sensitive species, cultural site). To the extent feasible, new access roads shall be designed to be placed in previously disturbed areas and areas that require the least amount of grading in sensitive areas. Whenever feasible, in areas where there are existing access roads, preference shall be given to the use of new spur roads rather than linking facilities tangentially with new, continuous roads. Where it is infeasible to locate roads along contours, or in previously disturbed areas, or use spur roads to limit grading, the revegetation/seeding plans for the project would incorporate plant species in areas adjacent to access roads that are capable of screening the visual impacts of the roads.
41	In areas designated as sensitive by SDG&E or the resource agencies (see Section 6.3), to the extent feasible structures and access roads would be designed to avoid sensitive features and/or to reduce visual contrast. These areas of sensitive features include but are not limited to high-value wildlife habitats and cultural sites, and/or to allow conductors to clearly span the features, within limits of standard tower or pole design (see Protocol 52 for avoidance of sensitive water resource features). If the sensitive features cannot be completely avoided, poles and access roads would be placed to minimize the disturbance to the extent feasible. When it is not feasible to avoid constructing poles or access roads in high value wildlife habitats, SDG&E would perform three site surveys to determine presence or absence of endangered species in those sensitive habitats. SDG&E would submit results of those surveys to the USFWS and CDFG in accordance with its NCCP and consult on mitigation measures for potential impacts, prior to constructing poles or access roads. However, these site surveys would not replace the need for SDG&E to perform detailed on-the-ground surveys as required by Protocols 20, 21 42, 43, and 44. Where it is not feasible for access roads to avoid sensitive water resource features, such as streambed crossings, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, roads constructed parallel to streambeds would be limited to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the USACOE, CDFG, and RWQCB. When it is not feasible for poles or access roads to avoid cultural sites, SDG&E would consult with the appropriate federal and State SHPO and local (indigenous Native American tribes) cultural resource agencies and specialists to either modify the project or develop alternative construction techniques to avoid cultural resources or develop appropriate mitigation measures. Appropriate mitigation measures may include actions such as data recovery studies, cultural resource removal and cataloging, and/or cultural resource removal and relocation.

Table D.3-4. Project Protocols – Biological Resources

PP No.	Description
42	Conduct detailed on-the-ground surveys (focused or protocol surveys), as required by the applicable government environmental resource agencies, to determine whether the Quino checkerspot butterfly and/or arroyo southwestern toad habitat is present within the project's route. If these species habitat are determined to be potentially affected by project activities, specific alternative strategies to avoid such habitat and, where avoidance of such impacts is unavoidable, specific mitigation measures would be determined through consultation, in accordance with the NCCP, with the USFWS and CDFG. If it is determined that it is not feasible to avoid such habitat impacts, the project biologist would recommend mitigation in consultation with applicable resource agencies. In those situations where more than one site visit may be necessary to identify a given species, no more than three site visits shall be required. Permanent or temporary disturbance of habitat would be rehabilitated or mitigated according to the biological resource proposed mitigation.
43	Conduct surveys as required by the applicable government environmental resource agencies to determine whether least Bell's vireo, coastal California gnatcatcher, southern California rufous-crowned sparrow, grasshopper sparrow, coastal cactus wren, western burrowing owl, Cooper's hawk, and golden eagle are present within the project's route. If these species are present and unavoidable impacts to suitable habitat would occur, SDG&E would, to the extent feasible, cause such impacts to suitable habitat to occur during the non-breeding season for each species. Specific alternative mitigation measures (e.g., offsite restoration or enhancement of these species' habitats) would be determined through consultation, in accordance with its NCCP, with the USFWS and CDFG. If it is determined that it is not feasible to avoid habitats during the breeding season, the project biologist would recommend an alternative mitigation approaches to SDG&E, and a decision would be made how to proceed in consultation with the applicable resource agencies. In those situations where more than one site visit may be necessary to identify a given species or its habitat, such as certain birds, no more than three site visits shall be required. Permanent or temporary disturbance of habitat would be rehabilitated or mitigated according to the biological resource proposed mitigation.
44	Conduct surveys as required by the applicable government environmental resource agencies to determine whether vernal pools containing San Diego fairy shrimp are present within the project's route. If vernal pools and/or San Diego fairy shrimp are determined to be potentially affected by project activities, specific avoidance strategies and mitigation measures would be identified through consultation, in accordance with its NCCP, with the USFWS and CDFG and USACOE if necessary. Project facilities and activities shall be planned to avoid disturbance to vernal pools, their watersheds, or impacts to their natural regeneration. Continued maintenance of the project's facilities, utilizing existing access roads and access routes constructed as a part of the project, are allowed to continue in areas containing vernal pool habitats. Construction and maintenance of the project's facilities, which span vernal pool habitats, are allowed as long as the placement of the facilities or location of associated construction activities in no way impacts vernal pools.
50	Where necessary to avoid significant protected environmental land use impacts, limit potential visual impacts and reduce the footprint of structures, use single-pole steel support structures in place of steel lattice tower structures.
51	To minimize perching opportunities for raptors near habitats supporting sensitive prey species, select structures incorporating a design to discourage raptor perching.
52	To the extent feasible, design structure locations to avoid wetlands, streams, and riparian areas. These sensitive water resource features include riparian areas, habitats of endangered species, streambeds, cultural resources, and wetlands. If these areas cannot be avoided, a qualified biological contractor shall conduct site-specific assessments for each affected site. These assessments shall be conducted in accordance with USACOE wetland delineation guidelines, as well as CDFG streambed and lake assessment guidelines, and shall include impact minimization measures (e.g., creation and restoration of wetlands) to reduce wetland impacts to a less than significant effect. Though construction or maintenance vehicle access through shallow creeks or streams is allowed, staging/storage areas for equipment and materials shall be located outside of riparian areas. Construction of new access through streambeds that require filling for access purposes would require a Streambed Alteration Agreement from CDFG and/or consultation with USACOE. Where filling is required for new access, the installation of properly sized culverts and the use of geotextile matting should be considered in the CDFG/USACOE consultation process.
53	Known and potential cultural and biological resources, which may be affected by the project, would be monitored during project implementation. This would involve pedestrian surveys (i.e., Class III) to inventory and evaluate these resources along the selected route and any impacted area (e.g., access roads, substation sites, staging areas, etc.) beyond the ROW. In consultation with appropriate land managing agencies, SHPO officers, and applicable resource agencies, specific avoidance strategies and mitigation measures would be developed and implemented to avoid or mitigate identified adverse impacts on private, State, Bureau of Land Management (BLM), tribal, or other lands. The primary goal is to avoid impacts to environmental resources and secondarily to mitigate for unavoidable impacts. These may include project modifications to avoid adverse impacts, monitoring construction activities, or data recovery studies.

Table D.3-4. Project Protocols – Biological Resources

PP No.	Description
54	Restoration and habitat enhancement and mitigation measures developed during the consultation period under Section 7 or 10A of the ESA (1973) as amended would be implemented and complied with as specified in the BO of the USFWS.
55	An *Erosion Control and Sediment Transport Control Plan* would be included with the project grading plans submitted to San Diego County for review and comment. The sediment transport control plan would be prepared in accordance with the standards provided in the Manual of Erosion and Sedimentation Control Measures and consistent with practices recommended by the Resource Conservation District of San Diego County. Implementation of the plan would help stabilize soil in graded areas and waterways, and reduce erosion and sedimentation. The plan would designate BMPs that would be implemented during construction activities. Erosion control efforts, such as hay bales, water bars, covers, sediment fences, sensitive area access restrictions (e.g., flagging), vehicle mats in wet areas, and retention/settlement ponds, would be installed before extensive soil clearing and grading begins. Mulching, seeding, or other suitable stabilization measures would be used to protect exposed areas during construction activities. Revegetation plans, the design and location of retention ponds, and grading plans would be submitted to the CDFG and the USACOE for review in the event of construction near waterways.

Source: SDG&E PEA, 2002.

D.3.3.3 Proposed Miguel-Mission 230 kV #2 Project

The Proposed Project could result in temporary disturbance and/or permanent loss to sensitive vegetation communities, rare plant communities, and sensitive plant and animal species. Temporary disturbance includes short-term impacts during construction of new pole structures and removal of existing towers, construction of new access roads and improvements to existing access roads, and work at conductor tensioning/splicing and staging/laydown areas. Permanent loss involves long-term impacts associated with permanent project features (e.g., new transmission towers) that would remain throughout the life of the project. Examples of activities that would result in temporary impacts to sensitive vegetation communities include:

- Installation of new, bundled 230 kV circuit onto existing steel lattice tower structures
- Relocation of 138 kV and 69 kV circuits on to newly constructed wood and steel pole structures
- Installation of new steel pole structures
- Construction staging and laydown areas
- Construction access roads.

Each of these activities would cause the removal of existing vegetation and disturbance of surface soils. In addition, permanent loss of habitat would occur where new tower or pole foundations are installed.

Surface disturbance could occur during construction, operation, and maintenance of the Proposed Project especially when vehicles are driven over existing vegetation that has not been intentionally and regularly cleared to maintain utility access roads or firebreaks. Impacts would be related to the following activities:

- Movement of equipment and project personnel for monthly or annual project maintenance
- Movement of equipment and project personnel during line-stringing/cable pulling where ground clearance is not required.

Each of these activities could cause temporary damage to existing vegetation, but would not likely involve removal or substantial disruption of surface soils. The most common type of surface disturbance is associated with rubber-tired or steel-tracked vehicles used to string/pull the line and transport personnel and materials along the project ROW. Potential impacts to plant communities could also be caused by the movement of construction/maintenance vehicles and equipment within the transmission line ROW.

Impacts could include soil compaction and crushing of vegetation. Not all plant communities are equally sensitive to surface disturbance, not all of these impacts would occur in every plant community, and such disturbance would be limited to areas where other existing surface roads are not available. The project's impacts were quantified by overlaying the limits of project construction on the biological resources map of the site (see Figures 4-1 through 4-40 of the biological technical report, RECON, 2004).

Impact B-1: Temporary and Permanent Loss of Sensitive Vegetation Communities

Temporary impacts would occur during the construction phase(s) of the Proposed Project. Permanent impacts would occur during project operations. Table D.3-5 summarizes the temporary and permanent impacts to each vegetation community. Sensitive vegetation communities that would be impacted include chamise chaparral, coastal sage scrub, disturbed coastal sage scrub, maritime succulent scrub, and annual grasslands. Impacts to these vegetation communities are potentially significant and would require mitigation (Class II). Impacts to ruderal and disturbed vegetation and developed land are considered to be less than significant and do not require mitigation (Class III).

Table D.3-5. Impacts to Sensitive Vegetation Communities and Mitigation Required for the Proposed Project

Vegetation Communities	Temporary Impacts and Mitigation Requirements			Permanent Impacts and Mitigation Requirements			Total Mitigation Required (acres)
	Temporary Impacts (acres)	Mitigation Ratio	Mitigation Required (acres)	Permanent Impacts (acres)	Mitigation Ratio	Mitigation Required (acres)	
Inside Preserve/QCB habitat*							
Chamise chaparral	1.30	1:1	1.30	0.18	2:1	0.36	1.66
Coastal sage scrub (including disturbed)/Maritime succulent scrub	51.73	1:1	51.73	5.25	2:1	10.50	62.23
Non-native grasslands	0.77	1:1	0.77	0.21	2:1	0.42	1.19
Ruderal/disturbed	1.15	—	—	0.09	—	—	—
Developed	4.28	—	—	0.36	—	—	—
Subtotal	**59.23**	—	**53.80**	**6.09**	—	**11.28**	65.08
Outside of Preserve							
Chamise chaparral	—	—	—	—	—	—	—
Coastal sage scrub (including disturbed)/Maritime succulent scrub	15.03	1:1	15.03	2.10	1:1	2.10	17.13
Annual grasslands	6.40	1:1	6.40	0.51	1:1	0.51	6.91
Ruderal/disturbed	7.59	—	—	0.18	—	—	—
Developed	17.36	—	—	1.08	—	—	—
Subtotal	**46.38**	—	**21.43**	**3.87**	—	**2.61**	**24.04**
GRAND TOTAL	**105.61**	—	**75.23**	**9.96**	—	**13.89**	**89.12**

Source: RECON, 2004.

* Within the Multiple Habitat Preservation Area (MHPA), and/or the high/very high habitat classifications of the Habitat Evaluation Model (Ogden, 1994), and/or within QCB suitable or occupied habitat.

Mitigation Measure for Impact B-1, Temporary and Permanent Loss of Sensitive Vegetation Communities

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. SDG&E shall implement the following in addition to PP-1 and PP-41:

1. Where impacts to chamise chaparral, coastal sage scrub (including disturbed), maritime succulent scrub, and annual grasslands cannot be avoided, SDG&E shall either restore temporarily disturbed areas to pre-construction conditions following construction or deduct from the SDG&E Mitigation Credits, as stated in the SDG&E NCCP. Where onsite restoration is planned for mitigation of temporary impacts to sensitive vegetation communities, the Applicant shall identify a Habitat Restoration Specialist to be approved by the CPUC to determine the most appropriate method of restoration. Restoration techniques can include: hydroseeding, hand-seeding, imprinting, and soil and plant salvage, as discussed in Section 7.2.1 of the NCCP.

   Monitoring would include visual inspection of restored areas after one year. A second application may be made. If, after the second year, restoration is deemed unsuccessful, the USFWS and CDFG, in cooperation with SDG&E, shall determine whether the remaining loss shall be mitigated through a deduction from the SDG&E Mitigation Credits, or a third application would better achieve the intended purpose. The mitigation objective for impacted sensitive vegetation communities shall be restoration to pre-construction conditions as measured by species cover, species diversity, and exotic species cover. The cover of native species should increase while the cover of non-native or invasive species should decrease. Success criteria shall be established by comparison with reference sites. If, however, roots are not grubbed during temporary impacts, restoration/hydroseeding may not be necessary. This applies to impacts greater than 500 square feet, and only where grubbing occurred. For all temporary impacts greater than 500 square feet, acreage not meeting success criteria shall be deducted from SDG&E's mitigation credits at a 1:1 ratio.
2. Based on information provided in the biological technical report (RECON, 2004), the total acreage requiring restoration for temporary impacts is 75.23 acres (Table D.3-5). The total acreage of permanent impact mitigation is 13.89 acres, which must be subtracted from SDG&E's mitigation bank credit. These totals included impacts to vegetation communities for the coastal California gnatcatcher and quino checkerspot butterfly.

Impact B-2: Impacts to Sensitive Plant Species

No impacts would occur to San Diego thornmint, Otay manzanita, Dean's milk vetch, Dunn's mariposa lily, variegated dudleya, Munz's sage, or San Diego County viguiera as a result of the Proposed Project. Although these species are present within the project area, they are not within any areas that would be impacted by the Proposed Project.

In addition, no impacts are expected to occur to Otay tarplant due to the implementation of the Proposed Project. This species is covered by SDG&E's NCCP, which recommends avoidance, minimization, and/or mitigation for any potential impacts. Otay tarplant is present in many areas surrounding the Miguel Substation. Initially, a stringing/staging site south of the Miguel Substation was to be located in an area that would have impacted several Otay tarplant individuals. To avoid impacts to this species SDG&E relocated this proposed stringing/staging site northeast approximately 200 feet from its original location.

Impacts would occur to the San Diego golden star due to the implementation of the Proposed Project. This species is present within the temporary impact areas for modifying existing Towers #675988 and #576647, as shown on Figures 4-6 and 4-26 of the biological technical report (RECON, 2004). This impact is covered by SDG&E's NCCP and is considered less than significant (Class III). No mitigation is required for impacts to this species.

Temporary impacts to the following sensitive plant species are not anticipated, but have the potential to occur: San Diego ambrosia and San Diego barrel cactus, as discussed below. No permanent impacts would occur to any sensitive plant species.

Impact B-2.1: San Diego Ambrosia

Under SDG&E's NCCP, this species is considered a narrow endemic and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities only. Take of the species for non-emergency work may not occur without first conferring with the USFWS and CDFG. Furthermore, for new projects, destruction of narrow endemic wildlife species or their supporting habitat would not be covered by the NCCP.

San Diego ambrosia is present within the non-native grassland southeast of Willow Glen Drive and Steele Canyon Road. As shown on Figure 4-9 of the biological technical report (RECON, 2004), project activities would take place adjacent to the three San Diego ambrosia patches. This species should be avoided to the maximum extent feasible. Based on the existing location of this species, no permanent impacts to the species are anticipated due to the installation of Structures #361 and #370 (RECON, 2004). These structure locations are currently 15 to 20 feet from any San Diego ambrosia plants. If the patch of San Diego ambrosia adjacent to the Structure #361 location expands and would be permanently impacted by the structure, the structure may be relocated a few feet to the north in order to prevent impacts (RECON, 2004). Impacts to the San Diego ambrosia are potentially significant (Class II), mitigable to less than significant levels with implementation of Mitigation Measure B-2a.

Mitigation Measure for Impact B-2.1, Impacts to San Diego Ambrosia

B-2a Protect San Diego ambrosia from impacts or provide compensation for impacts.

1. A qualified biologist shall conduct a focused survey for San Diego ambrosia in the spring of 2004, prior to the start of construction. All San Diego ambrosia locations shall be recorded using a global positioning system (GPS), and Figure 4-9 of the biological technical report (RECON, 2004) shall be updated with any new locations. In addition, the boundaries of all San Diego ambrosia patches shall be clearly staked and flagged during the surveys for impact avoidance during implementation of the Proposed Project.

2. All patches of San Diego ambrosia that are delineated shall be avoided to the maximum extent possible by any temporary soil disturbing project activities such as driving, staging, or deposition of auger spoils. If driving or staging in areas containing San Diego ambrosia is unavoidable, work shall be conducted during the fall or winter months, the species' dormant period, and plywood or a similar material shall be placed over the San Diego ambrosia plants and their surrounding area to reduce soil disturbance. Moreover, if avoidance is not feasible, the Applicant shall coordinate with the USFWS regarding Mitigation Measure B-1a as well as potential restoration/compensation measures.

3. Permanent impacts may take place at the locations for Structures #361 and #370. These structure locations are currently 15 to 20 feet from any San Diego ambrosia plants. If the patch of San Diego ambrosia adjacent to the Structure #361 location expands and would be permanently impacted by the structure, the structure location may be relocated a few feet to the north in order to prevent impacts. If the section of San Diego ambrosia adjacent to Structure #370 expands and would be permanently impacted by the structure, which can not be relocated due to engineering constraints, the project biologist and USFWS and CDFG shall coordinate to determine suitable mitigation for the impacts.
4. A qualified biologist approved by the CPUC prior to the start of construction shall monitor project activities for all work conducted at or around Structures #361 and #370 and the associated stringing/snub site to ensure impact avoidance.

Impact B-2.2: San Diego Barrel Cactus

San Diego barrel cactus is along the eastern edge of the temporary impact area for modifying existing Tower #675994 (Figure 4-5 of the biological technical report [RECON, 2004]). This species has a low likelihood of being impacted by the Proposed Project. Although this species is covered by SDG&E's NCCP, recommendations for avoidance and/or mitigation are presented in Mitigation Measure B-2b, due to the slow growing nature of the San Diego barrel cactus. Impacts to the San Diego barrel cactus are potentially significant (Class II), mitigable to less than significant levels with implementation of Mitigation Measure B-2b.

Mitigation Measure for Impact B-2.2, Impacts to San Diego Barrel Cactus

B-2b **Protect San Diego barrel cactus from impacts or relocate potentially impacted species.** A qualified biologist approved by the CPUC prior to the start of construction shall clearly stake and flag San Diego barrel cactus, which shall be avoided to the maximum extent possible by any temporary soil disturbing project activities such as driving, staging, or deposition of auger spoils. If avoidance is not feasible, individual San Diego barrel cacti shall be relocated outside of the impact area or temporarily removed and replanted after construction activities are complete.

Impact B-3: Impacts to Vernal Pools

As discussed above, three vernal pool complexes are known to occur along the existing project ROW. At all of these locations, there are depressions within the access roads that hold water and have characteristics similar to the vernal pools surrounding them. Figures 4-35 and 4-37 through 4-40 of the biological technical report (see Appendix 3) (RECON, 2004) show the locations of these depressions. Mitigation Measure B-4d is required to ensure that potentially significant impacts (Class II) to these depressions are reduced to less than significant levels.

The SDG&E NCCP does not cover impacts to vernal pools and vernal pool species (including the San Diego fairy shrimp) resulting from new projects, such as the Proposed Project. As a result, the Proposed Project must avoid impacts to vernal pools. However, SDG&E submitted a Minor Amendment application to the USFWS to address impacts to vernal pools in the SDG&E NCCP. If the Minor Amendment for vernal pools is finalized prior to project implementation, and addresses the use of existing access roads for new projects, the Proposed Project could be processed under the plan (USFWS letter, January 6, 2004).

Mitigation Measure for Impact B-3, Impacts to Vernal Pools

Mitigation for temporary or permanent impacts to vernal pools, which provide habitat for the San Diego fairy shrimp or are occupied by San Diego fairy shrimp, is presented under Impact B-4.4, *San Diego Fairy Shrimp*, below. Mitigation Measures B-4d and B-4e would ensure that impacts to vernal pools are less than significant.

Impact B-4: Impacts to Sensitive Animal Species

Minimal impacts may occur to the orange-throated whiptail, San Diego horned lizard, western spadefoot toad, grasshopper sparrow, southern California rufous-crowned sparrow, San Diego black-tailed jackrabbit, San Diego desert woodrat, southern mule deer, mountain lion, and their habitats due to the Proposed Project. These species are covered by SDG&E's NCCP, and impacts to these species are considered less than significant (Class III). No mitigation is required for impacts to these species.

In addition, the least Bell's vireo would not be impacted by the Proposed Project. Although there is suitable least Bell's vireo habitat present between Towers #971863 and #971864 (Figure 4-10 of the biological technical report [RECON, 2004]), the Proposed Project would not impact this habitat. Project activities would be conducted at least 400 feet from suitable Bell's vireo habitat, minimizing any potential noise impacts due to the project activities. Therefore, impacts would be less than significant (Class III) and no mitigation is required.

Impacts to the California horned lark may occur. During the 2002 and 2003 surveys, one California horned lark was observed throughout the entire project area. Due to the low occurrence of this species, the potential for this species to be impacted by project activities is low. This species is not covered by the SDG&E NCCP. Impacts that may occur to this species would be adverse, but less than significant and would not require mitigation (Class III).

A total of 31.6 acres of suitable habitat for Hermes copper butterfly (a regionally sensitive species) are found throughout the Proposed Project area. Of this total, 0.5 acres (less than 2 percent) would be temporarily impacted by construction activities. This species is not covered under SDG&E's NCCP. However, based on the relatively low sensitivity of this species and the limited extent of impacts (less than 2 percent) to potential habitat, these impacts are less that significant and would not require mitigation (Class III).

Potentially significant impacts to the following sensitive animal species would occur as a result of the Proposed Project: raptors, coastal cactus wren, coastal California gnatcatcher, San Diego fairy shrimp (vernal pool), and quino checkerspot butterfly. Each impact and associated mitigation measures are discussed below.

Impact B-4.1: Raptors

Many raptor species utilize the existing lattice steel transmission towers as nesting and perching locations during the raptor breeding season of January through June. Impacts to an active nest of any raptor species would be considered potentially significant (Class II), requiring mitigation to reduce the impact to less than significant levels.

Mitigation Measure for Impact B-4.1, Impacts to Raptors

B-4a Protect raptor nests.

1. Prior to construction, SDG&E shall remove all existing raptor nests from structures that would be affected by project construction.
2. Removal of nests shall occur outside the raptor breeding season (January to July).
3. If it is necessary to remove an existing raptor nest during the breeding season, a qualified biologist, approved by the CPUC prior to the start of construction, shall survey the nest prior to removal to determine if the nest is active. If the nest is inactive, it shall be removed promptly. If a nest is determined to be active, the nest shall not be removed and the biologist shall monitor the nest to ensure nesting activities/breeding activities are not disrupted. If the biological monitor determines that project activities are disturbing or disrupting nesting activities, the monitor shall make feasible recommendations to reduce the noise and/or disturbance in the vicinity of the nest.

Impact B-4.2: Coastal Cactus Wren

Under SDG&E's NCCP, the coastal cactus wren is considered a narrow endemic and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency work may not occur without first conferring with the USFWS and CDFG. Furthermore, for new projects, destruction of narrow endemic wildlife species or their supporting habitat are not covered by the NCCP.

Impacts could occur to this species if work within the maritime succulent scrub surrounding the Los Coches Substation (Figure 4-18 of the biological technical report [RECON, 2004]) is conducted during the breeding season of March through August. Approximately 6.46 acres of suitable coastal cactus wren habitat would be temporarily impacted and 0.18 acres would be permanently impacted. These impacts are potentially significant (Class II) and would require implementation of Mitigation Measure B-4b.

Mitigation Measure for Impact B-4.2, Impacts to Coastal Cactus Wren

B-4b Protect coastal cactus wren and its habitat.

1. SDG&E shall implement PP-43.
2. All grading or brushing of maritime succulent scrub, habitat for the coastal cactus wren, shall be conducted from September through February, which is outside the coastal cactus wren breeding season. Grading, brushing, and any other project activity shall avoid impacting large cactus patches that provide suitable nesting habitat for the coastal cactus wren.
3. When conducting project activities during the coastal cactus wren breeding season of March through August, within maritime succulent scrub habitat, the following avoidance measures shall apply:

   (a) A qualified biologist shall survey for coastal cactus wren within one week prior to initiating project activities in an area.

   - If coastal cactus wrens are present but not nesting, a qualified biologist shall survey for nesting coastal cactus wrens once per week in the vicinity of project activities, for the duration of the activity in that area.

- If an active coastal cactus wren nest is located in the vicinity of project activities, a biologist qualified for coastal cactus wren nest monitoring shall monitor the nest daily until either project activities are no longer in the vicinity of the nest, or the fledglings become independent of their nest.

(b) If the coastal cactus wren nest monitor determines that project activities are disturbing or disrupting the nesting activities of an active nest, the monitor shall make feasible recommendations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nesting coastal cactus wren and the project activities, and working in other areas until the young have fledged.

4. Consultation with USFWS and CDFG is required prior to undertaking any activity that would impact nesting birds in order to agree on specific suitable actions.

Impact B-4.3: Coastal California Gnatcatcher

Impacts to the coastal California gnatcatcher could occur if an active nest is present within coastal sage scrub that is crushed or graded during construction. Approximately 66.76 acres of suitable coastal California gnatcatcher habitat would be temporarily impacted and 7.35 acres would be permanently impacted. These impacts are potentially significant (Class II) and Mitigation Measure B-4c is recommended to reduce impacts to less than significant levels. These impacts also require implementation of Project Protocols as specified in the SDG&E NCCP (PP-1, PP-2, PP-36, and PP-43).

Mitigation Measure for Impact B-4.3, Impacts to Coastal California Gnatcatcher

B-4c Protect coastal California gnatcatcher and its habitat.

1. SDG&E shall implement PP-43.
2. All grading or brushing taking place within coastal sage scrub, disturbed coastal sage scrub, or maritime succulent scrub, habitats of the coastal California gnatcatcher, shall be conducted from September through February, which is outside the coastal California gnatcatcher breeding season.
3. When conducting all other project activities during the coastal California gnatcatcher breeding season of March through August, within habitat in which coastal California gnatcatchers are known to or have a high potential to occur, the following avoidance measures shall apply:

   (a) A qualified biologist shall survey for coastal California gnatcatchers within one week prior to initiating project activities in an area.

   - If coastal California gnatcatchers are present, but not nesting, a qualified biologist shall survey for nesting coastal California gnatcatchers approximately once per week in the vicinity of project activities, for the duration of the activity in that area.
   - If an active coastal California gnatcatcher nest is located in the vicinity of project activities, a biologist qualified for coastal California gnatcatcher nest monitoring shall monitor the nest daily until either project activities are no longer in the vicinity of the nest or the fledglings become independent of their nest.

(b) If the coastal California gnatcatcher nest monitor determines that the project activities are disturbing or disrupting the nesting activities, the monitor shall make feasible recommendations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as, but not limited to, turning off vehicle engines and other equipment when ever possible to reduce noise, installing a protective noise barrier between the nesting coastal California gnatcatchers and the project activities, and working in other areas until the young have fledged.

4. Consultation with USFWS and CDFG is required prior to undertaking any activity that would impact nesting birds in order to agree on specific suitable actions.

Impact B-4.4: San Diego Fairy Shrimp

Tower #873081 is located between Calle de Vida and Tierrasanta Boulevard. If the depression within this access road cannot be avoided, it is estimated that accessing Tower #873081 would temporarily impact approximately 525 square feet (0.01 acres) of occupied San Diego fairy shrimp habitat.

Tower #873072 and its associated stringing site are located within the Naval Family Housing Vernal Pool Preserve at the end of Santo Road. It is estimated that accessing Tower #873072 would temporarily impact approximately 2,475 square feet (0.06 acres) of occupied San Diego fairy shrimp habitat and an additional 2,520 square feet (0.06 acres) of potential San Diego fairy shrimp habitat, totaling 4,995 square feet (0.12 acres) of impact. SDG&E is currently investigating the feasibility of an alternate route to Tower #873072. This alternate route would utilize a well-traveled dirt road that runs along the fence, outside of the Preserve, and then cuts through the Preserve for approximately 150 feet, heading directly for Tower #873072. This alternate route to access Tower #873072 and its associated stringing site would reduce the temporary impacts to approximately 240 square feet (0.005 acres) of occupied San Diego fairy shrimp habitat and 360 square feet (0.008 acres) of potential San Diego fairy shrimp habitat, totaling 480 square feet (0.01 acres) of impact.

Tower #579861 is located on a loop road off Ronda Avenue. It is estimated that accessing Tower #873081 while avoiding the southern portion of the loop would temporarily impact approximately 1,412 square feet (0.03 acres) of potential San Diego fairy shrimp habitat.

Tower #731172 is also located on a loop road off Ronda Avenue. No impacts to potential San Diego fairy shrimp habitat would occur while accessing Tower #731172. The depression immediately west of this tower would be avoided completely.

If the proposed avoidance routes are feasible during project activities in both wet and dry weather, total temporary impacts to occupied San Diego fairy shrimp habitat as a result of project activities are anticipated to be approximately 480 square feet (0.005 acres), and temporary impacts to potential habitat as a result of project activities are anticipated to be approximately 1,655 square feet (0.038 acres). The total area of impact for both occupied and potential habitat for San Diego fairy shrimp is anticipated to be 2,145 square feet (0.043 acres). Implementation of Mitigation Measure B-4d (below) would be required to reduce potentially significant impacts (Class II) to less than significant levels.

If the proposed avoidance routes are *not* feasible during project activities, total temporary impacts to occupied San Diego fairy shrimp habitat as a result of project activities are anticipated to be approximately 3,000 square feet (0.07 acres), and temporary impacts to potential habitat as a result of project activities are anticipated to be approximately 3,932 square feet (0.09 acres). The total area of impact for both occupied and potential habitat for San Diego fairy shrimp is anticipated to be 6,932 square feet (0.16 acres). Potentially significant impacts would be reduced to less than significant levels with implementation of Mitigation Measure B-4d.

Mitigation Measure for Impact B-4.4, Impacts to San Diego Fairy Shrimp

B-4d Protect San Diego fairy shrimp and vernal pools, or provide compensation for impacts.

1. Prior to construction, SDG&E's biological monitor (to be approved by the CPUC prior to the start of construction) shall clearly flag and stake all vernal pools and depressions within access roads to help minimize project impacts including, but not limited to, the following areas: the access road between Calle de Vida and Tower #873081; southern section of the loop road between Towers #579861 and #731171; and the depression immediately west of Tower #731172. In addition to vehicles being restricted from these areas, crewmembers on foot shall also avoid these areas.
2. A preconstruction environmental training session shall be conducted by a qualified biologist for the construction crew before reconductoring activities occur to inform them of project-specific constraints and to educate them on covered species and sensitive resources at the project site.
3. A qualified biologist shall be present during all activities being conducted within the access routes to Towers #873081, #873072, #579861, and #731172 to monitor and assist the crew to minimize project impacts.
4. If the alternate access route to Tower #873072 and its associated stringing site is feasible, this route shall be used for all project activities associated with Tower #873072 including its stringing site.
5. Access roads to Towers #873081, #873072, #579861, and #731172 shall be used only when the roads and depressions are completely dry, preferably during the dry season (typically April through November). If Towers #873081, #873072, #579861, and #731172 must be accessed while any portion of the depressions within the roads are wet, metal plating or bridging shall be placed over the depressions to prevent alteration of the depression topography, hydrology, and impacts to San Diego fairy shrimp.
6. Assuming that the vehicles required for reconductoring have adequate space to turn around within the access road or adjacent spur roads near Tower #873081, this tower shall be accessed only from Tierrasanta Boulevard, instead of Calle de Vida to prevent driving through the depression north of this tower. If space is not adequate for turning around the reconductoring vehicles, the recommendations above (Items 3 through 5) shall be followed.
7. The depression immediately west of Tower #731172 shall be avoided to prevent impacts to potential San Diego fairy shrimp habitat. Reconductoring vehicles shall park far enough away from this tower to avoid effects on the depression.

In response to a request from the USFWS, the following mitigation measure shall also be implemented to protect vernal pools.

B-4e Protect vernal pools.

If use of alternative routes is feasible:

1. Old routes and roads shall be blocked from use to allow for the recovery of natural vegetation. In some cases, restoration of vernal pools and/or habitat in abandoned roads may be appropriate.

If use of alternative routes is not feasible and impacts to San Diego fairy shrimp and vernal pools are unavoidable:

2. In lieu of the requirement defined in Item 5 of Mitigation Measure B-4d, SDG&E shall clearly define and improve existing access roads (elevate and crown with appropriate material) and permanently maintain these access roads to prevent ponding, thereby precluding native plant and animal species from being established in the road beds. As such, appropriate mitigation for temporary and permanent impacts to San Diego fairy shrimp and vernal pools within the access roads shall be developed in coordination with the USFWS and CDFG.
3. The mitigation program required by USFWS and CDFG is expected to include a quantification of project impacts, a mitigation ratio of 2:1 for vernal pool surface area impacts, implementation of a vernal pool restoration plan on an area with appropriate soils, and maintenance and monitoring for five years.

Impact B-4.5: Quino Checkerspot Butterfly

Impacts to suitable and occupied quino checkerspot butterfly (QCB) habitat were determined using the following definitions:

- Suitable QCB habitat includes "shrub communities such as coastal sage scrub, chaparral, and desert scrub with 50 percent shrub cover or less and the potential to support dot-seed plantain (*Plantago erecta*) or other larval host plants" (RECON, 2000).
- Occupied QCB habitat includes all "non-excluded areas" as defined in the USFWS Adult Flight Season Survey Protocol (2002) within one kilometer of a known quino checkerspot butterfly location.

As shown in Table D.3-6, temporary impacts to suitable quino checkerspot butterfly habitat as a result of project activities are anticipated to be approximately 1.96 acres, and permanent impacts to suitable quino checkerspot butterfly habitat are anticipated to be approximately 0.27 acres. Temporary and permanent impacts to occupied quino checkerspot butterfly habitat as a result of project activities are anticipated to be approximately 4.22 and 0.63 acres, respectively. The USFWS requires that SDG&E conduct QCB surveys in spring 2004, which could change the extent of impacts and required mitigation.

Impacts to QCB could occur if grading or grubbing is conducted between October 16 through May 31, which is the QCB larval and adult activity season. If grading and grubbing occur between these dates, implementation of Mitigation Measure B-4f would be required to reduce potentially significant impacts (Class II) to less than significant levels. However, if grading and grubbing can avoid this time period, impacts would be considered less than significant (Class III) and temporary impacts to habitat could be reduced by using habitat enhancement measures in Section 7.2 of the NCCP such as hydroseeding, hand seeding, soil imprinting and soil and plant salvage. In addition to habitat enhancement, mitigation for impacts to suitable habitat and non-excludable areas would be implemented at ratios acceptable to the wildlife agencies.

Table D.3-6. Temporary and Permanent Impacts to Quino Checkerspot Butterfly Habitat (acres)*

Vegetation Type	Temporary Impacts	Permanent Impacts
Coastal sage scrub	(5.00)	(0.72)
Chamise chaparral	(1.18)	(0.18)
Vegetation Type Total	**(6.18)**	**(0.90)**
Suitable QCB habitat	1.96	0.27
Occupied QCB habitat	4.22	0.63
QCB Habitat Total	**6.18**	**0.90**

( ) = Included in the QCB habitat total.
* These acreages are included in Table D.3-5.
Source: RECON, 2004.

Mitigation Measure for Impact B-4.5, Impacts to Quino Checkerspot Butterfly

B-4f Protect quino checkerspot butterfly and its suitable habitat.

1. SDG&E shall implement PP-42.
2. Prior to construction, SDG&E shall clearly stake the boundaries of all actual construction sites at existing structures, new structures sites, stringing, snub, and staging areas in quino checkerspot butterfly habitat.
3. A preconstruction environmental training session shall be conducted for the construction crew before vegetation and ground clearing activities occur to inform them of project-specific constraints and to educate them on covered species and sensitive resources at the project site.
4. If the project is to be implemented in the summer or fall of 2004, adult flight season surveys shall be conducted in the spring of 2004 to observe any changes in habitat or additional quino checkerspot butterfly locations.
5. The staked construction sites at existing structures, new structure sites, stringing, snub, and staging areas from Tower #675995 to Tower #675984 shall be resurveyed and reassessed for potential impacts to quino checkerspot butterfly after the sites have been staked but prior to grading and grubbing activities. Estimated impacts to quino checkerspot butterfly habitat shall also be recalculated based on the boundaries of the staked construction sites.
6. If feasible, grading and grubbing activities shall occur between June 1 and October 15, which is outside of the quino checkerspot butterfly larval and adult activity season.
7. If grading and grubbing activities occur during the quino checkerspot butterfly larval and adult activity season (October 16 through May 31), a qualified quino checkerspot butterfly biologist shall survey the area prior to grading activities. If the adult flight season has not begun, according to USFWS Survey Protocol (2002), a qualified larval quino checkerspot butterfly biologist shall survey the area for larval quino checkerspot butterfly prior to grading and grubbing activities. If egg clusters, larvae, and/or adults are present within the impact area, and impacts to these individuals are unavoidable, the USFWS shall be contacted to determine whether the quino checkerspot butterfly shall be salvaged or relocated.
8. A qualified biologist shall be present during grading and grubbing activities to monitor and assist the grading and grubbing crew to ensure project impacts only occur within the staked construction work sites.
9. The San Diego National Wildlife Refuge shall be notified prior to project activities occurring at New Structure Site #30 and Tower #675995 through New Structure Site #161 and Tower #675987.

In response to a proposal by the USFWS, the following mitigation measure shall also be required to protect the quino checkerspot butterfly:

B-4g Protect quino checkerspot butterfly.

1. A qualified botanist shall identify "suitable quino habitat" any time of the year, but prior to clearing and grubbing. "Suitable quino habitat" is defined as "shrub communities such as coastal sage scrub, chaparral, and desert scrub with 50 percent shrub cover or less and the potential to support dot-seed plantain or other larval host plants" (RECON, 2000).

2. If suitable habitat is identified within the project footprint, and the Proposed Project would not avoid impacts to all suitable habitat, then adult flight season surveys shall be conducted.
   (a) If no quino are detected, project activities may proceed and SDG&E shall mitigate at a 1:1 ratio for all impacts to suitable habitat.
   (b) If quino are detected and the impact to "non-excluded area" as defined in the USFWS Adult Flight Season Survey Protocol (2002) is less than one acre, then SDG&E shall mitigate for all impacts to all non-excluded areas at a 2:1 ratio.
   (c) If impacts to non-excluded areas are greater than or equal to one acre, the USFWS and CDFG approval is necessary. If project constraints do not allow for a 2004 adult flight season survey, then the non-excluded area shall be assumed to be occupied and protocols shall follow those specified above.
3. Based on information provided in the biology technology report (RECON, 2004), the currently anticipated mitigation requirement for temporary impacts is 6.18 acres and the mitigation requirement for permanent impacts is 0.90 acres, resulting in a total mitigation requirement of 7.08 acres. These numbers may change based on new surveys in 2004.

Impact B-5: Impacts by Invasive Plant Species

The project area contains several invasive species, including Russian thistle and fennel. Construction could result in the introduction of new invasive plants or the spread of existing invasive species into portions of the project area in which invasive species do not already occur. Unless properly maintained, disturbed areas can recolonize with invasive species that outcompete slower growing native species. The seeds of invasive species could be transported to other areas by the tires of trucks used during construction. Potentially significant impacts associated with the spread of noxious weeds would be reduced to less than significant levels with implementation of Mitigation Measure B-5a.

Mitigation Measure for Impact B-5, Impacts by Invasive Plant Species

B-5a Protect project area from introduction or establishment of invasive species. SDG&E shall prevent invasion of invasive, non-native plant species into sensitive plant species habitats and vegetation types by:

- Implementation of specific protective measures during construction, such as cleaning vehicles prior to off-road use, using weed-free imported soil, restricted vegetation removal and requiring topsoil storage
- Development and implementation of weed management procedures to monitor and control the spread of weed populations along the ROW
- Vehicles used in transmission line construction shall be cleaned prior to operation off of maintained roads
- Fill material, soil amendments, gravel, etc., required for construction/restoration activities shall be obtained from a source that can certify the soil as being "weed free"
- Existing vegetation shall be cleared only from areas scheduled for immediate construction work (within 10 days) and only for the width needed for active construction activities
- During construction, the upper 12 inches of topsoil (or less depending on existing depth of topsoil) shall be salvaged and replaced wherever the transmission line is trenched through open land (not including graded roads and road shoulders)
- Disturbed soils shall be revegetated with an appropriate seed mix that does not contain invasive, non-native plant species.

Impact B-6: Impacts Due to Bird Electrocution and Tower/Line Collisions

Electrocution. Raptors and other large aerial perching birds are most susceptible to electrocution because of their size, distribution, and behavior (Olendorff et al., 1981; APLIC, 1996). Because raptors and other large aerial perching birds often perch on tall structures that offer optimal views of potential prey, the design characteristics of transmission poles appear to be a major factor in raptor electrocutions (APLIC 1996). Electrocution occurs only when a bird simultaneously contacts two energized phase conductors or an energized conductor and grounded hardware. This happens most frequently when a bird attempts to perch on a transmission pole with insufficient clearance between these elements.

The Proposed Project would have minimum clearances between phase conductors or between phase conductors and grounded hardware, as recommended by APLIC (1996), that are sufficient to protect even the largest birds, and therefore would present little to no risk of bird electrocution. Bird electrocutions, resulting from proposed modifications at the Miguel and Mission Substations or the Fanita Junction, which include the addition of new 230 kV circuit breakers and switching equipment, bus and transport structures, control, protection and communication, and new concrete foundations, are not anticipated. Such modifications would present little to no risk of bird electrocution. Therefore, the potential for electrocution of birds by implementation of the Proposed Project would be considered a less than significant impact (Class III) and no mitigation is required.

Collision. Bird collisions with power lines generally occur when: (1) a power line or other aerial structure transects a daily flight path used by a concentration of birds, and (2) migrants are traveling at reduced altitudes and encounter tall structures in their path (Brown, 1993). Collision rates generally increase in low light conditions, during inclement weather, such as rain or snow, during strong winds, and during panic flushes when birds are startled by a disturbance or are fleeing from danger. Collisions are more probable near wetlands, valleys that are bisected by power lines, and within narrow passes where power lines run perpendicular to flight paths. Passerines (i.e., songbirds) and waterfowl (i.e., mallard ducks) are known to collide with wires (APLIC, 1994), particularly during nocturnal migrations or poor weather conditions (Avery et al., 1978). However, passerines and waterfowl have a lower potential for collisions than larger birds, such as raptors. Some behavioral factors contribute to a lower collision mortality rate for these birds. Passerines and waterfowl tend to fly under power lines, as opposed to larger species, which generally fly over the lines and risk colliding with the higher static lines, and many smaller birds tend to reduce their flight activity during poor weather conditions (Avery et al., 1978).

It is difficult to predict the magnitude of collision-caused bird mortality without extensive information on bird species and movements in the project vicinity. These data are not available for the proposed transmission line study area. However, it is generally expected that collision mortality would be greatest where the movements of susceptible species are the greatest (e.g., near wetlands, open waterbodies, etc.), such as the San Diego National Wildlife Refuge Otay-Sweetwater Unit, Santee Lakes Recreation Preserve, Lake Jennings County Park, and Sweetwater Reservoir as well as several natural drainage features within the project area, including the San Diego River, an unnamed tributary to the San Diego River in Sycamore Canyon, Sweetwater River, an unnamed tributary to the Sweetwater River in Steele Canyon, Los Coches Creek, and Forrester Creek. In addition, the placement and visibility of the line would influence collision mortality.

As previously stated, the proposed 230 kV circuits would be placed on existing 138 kV/69 kV towers and poles modified to support the 230 kV circuits. The difference in height between the proposed 230 kV circuits and the relocated 138 kV/69 kV circuits would be less than 10 feet and therefore, would not be considered a significant impact. The proposed new 138 kV/69 kV poles, and transmission lines would be placed at approximately the same height as the existing 138 kV/69 kV towers, poles, and transmission lines. Therefore, the addition of the new 138 kV/69 kV poles, and transmission lines would be considered a less than significant impact (Class III) and no mitigation is required.

Impact B-7: Indirect Impacts

Potential indirect impacts from project construction could include fugitive dust, human activity, decreased water quality (through sedimentation, urban contaminants, or fuel release, for example), construction noise, and night lighting. Indirect impacts that do not require development of additional mitigation include fugitive dust, human activity, water quality, and construction noise. Night lighting requires a new mitigation measure, presented below.

Fugitive Dust. Fugitive dust produced by construction has the potential to disperse onto vegetation, which may reduce the overall vigor of individual plants by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. This in turn could affect animals dependent on these plants (e.g., seed-eating rodents). Fugitive dust also may make plants unsuitable as habitat for insects and birds. These potential impacts would be minimized through project design measures (see PP-1, PP-7, and PP-11), which require that active construction areas and unpaved surfaces would be watered to minimize dust generation. Therefore, the indirect impacts of dust generation on biological resources would be less than significant (Class III).

Human Activity. Following the completion of construction and revegetation, the Proposed Project would only result in a negligible increase in human activity — a few inspection/maintenance trips per month would occur along existing and proposed access roads in the project area. No new trails would be created and no increase in public access to habitat would be provided. Accordingly, the indirect effects associated with human activity would be less than significant (Class III). No mitigation is required.

Water Quality. Water quality in riparian areas could be adversely affected by surface runoff and sedimentation during construction. The use of petroleum products (fuels, oils, lubricants) and erosion of cleared land during construction could contaminate surface water. In addition, there is a potentially higher than normal risk of surface runoff and erosion in portions of the project area due to the October 2003 Cedars fire. The Cedars fire burned over 280,000 acres in San Diego County. Decreased water quality may adversely affect the vegetation, aquatic animals, and terrestrial wildlife that depend on these resources. These potential impacts would be minimized through project design measures (see PP-6, PP-11, and PP-55) and compliance with applicable permitting requirements. SDG&E would have to acquire the appropriate stormwater permits through the Regional Water Quality Control Board. As such, these impacts would be less than significant (Class III).

Construction Noise. Indirect impacts associated with project activities will include a temporary increase in noise due to vehicles such as augers, cranes, and pick-up trucks. Breeding birds and mammals may temporarily or permanently leave their territories to avoid construction activity, which could lead to reduced reproductive success and increased mortality. However, due to the linear nature of the project, project activities, in most cases, would move frequently, so noise would not continue for lengthy time periods at any one location. In addition, noise minimization measures for activities adjacent to sensitive species such as the coastal cactus wren and coastal California gnatcatcher are presented in Mitigation Measures B-4b and B-4c, respectively. Any temporary noise impacts that may occur to wildlife species are not expected to reduce the wildlife populations within or adjacent to the project area below self-sustaining levels; therefore, these impacts are considered less than significant (Class II) with implementation of Mitigation Measures B-4b and B-4c.

Night Lighting. Night lighting in natural habitats can prevent nocturnal wildlife from using an area. Project construction activities would occur primarily during daylight hours, and may only continue on into evening hours under specific circumstances where ceasing project activities prior to completion would

result in unsafe conditions for workers and/or the transmission lines. In these instances, SDG&E states that any lighting required would point inward toward the project activities and away from surrounding housing or open space. In addition, vehicle traffic associated with project activities would be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species that may be moving about. Any temporary impacts that may occur to wildlife species are not expected to reduce the wildlife populations within or adjacent to the project area below self-sustaining levels; therefore, these impacts are considered less than significant (Class II) with implementation of Mitigation Measure B-7a.

Mitigation Measure for Impact B-7, Indirect Impacts due to Night Lighting

B-7a **Reduce night lighting on sensitive habitats.** Exterior lighting within the project area adjacent to preserved habitat shall be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from preserved habitat to the maximum extent practicable.

Impact B-8: Wildlife Corridors

Project activities are not expected to significantly impact or restrict wildlife movement. Movement of most mammal and reptile species takes place at night and nighttime vehicle traffic associated with project construction activities will be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species that may be moving about. Due to the linear, spread-out nature of the project, temporary impacts to native habitats at each structure location would be relatively small, allowing wildlife to move freely around any project equipment within the transmission corridor. Any temporary impacts that may occur to wildlife species are not expected to reduce the wildlife populations within or adjacent to the project area below self-sustaining levels; therefore, these impacts to wildlife corridors are considered less than significant (Class III) and no mitigation is required.

D.3.3.4 Future 230 kV Circuit within Miguel-Mission ROW

As described in Section A, SDG&E filed an Amendment to the Miguel-Mission 230 kV #2 Project on December 12, 2003 to add a second bundled 230 kV circuit in a vacant position on the modified steel lattice tower structures located between Miguel Substation and Fanita Junction. This circuit would extend over a distance of approximately 24 miles. This section generally evaluates the potential impacts associated with constructing and operating a future 230 kV circuit along the project segment between Miguel Substation and Fanita Junction.

Environmental Setting

The Future 230 kV Circuit within Miguel-Mission ROW would be located entirely within San Diego County and would pass through the Cities of San Diego and Santee, and unincorporated areas in the eastern portion of the County. The environmental setting of the project area generally encompasses rivers, ephemeral drainages, riparian habitats, grasslands, and large expanses of native coastal sage scrub and chaparral. The ROW passes through a section of the San Diego National Wildlife Refuge Otay-Sweetwater Unit. It also passes within the boundaries of multi-jurisdictional regional habitat conservation plans administered by the County of San Diego, the City of San Diego, and SDG&E to conserve threatened and endangered species and their habitats in these regions. In addition, this future project would cross or be in the vicinity of highways, roads, and commercial and residential areas (Essex, 2002, and RECON, 2004).

Impacts of Future Transmission Line Construction

Temporary impacts to sensitive vegetation communities and sensitive plants and animals would occur within the existing SDG&E alignment during the installation of the Future 230 kV Circuit at each of the steel lattice towers between the Miguel Substation and Fanita Junction and at stringing, staging, and snub sites. Under this alternative, impacts to sensitive vegetation communities would occur to approximately 68 percent of the vegetation impacted by and revegetated under the Proposed Project. Under the Future 230 kV Circuit within Miguel-Mission ROW project, both temporary and permanent impacts to sensitive vegetation communities would require mitigation, similar to Mitigation Measure B-1a, for the Proposed Project with mitigation acreages adjusted for this alternative.

In addition, temporary and permanent impacts to San Diego ambrosia, raptors, coastal cactus wren, coastal California gnatcatcher, quino checkerspot butterfly, invasive plant species, as well as indirect impacts to water quality, avian species due to construction noise, and night lighting would remain the same. Therefore, Mitigation Measures B-2a, B-4a through B-4c, B-4e, and B-5a through B-7a would be implemented to mitigate these impacts to less than significant levels.

Impacts of Future Transmission Line Operations

Operation of the Future 230 kV Circuit would be the same as operation under the Proposed Project, which includes maintenance and monitoring of the utility line. Therefore, no additional permanent impacts are anticipated due to operation of the Future 230 kV Circuit.

D.3.4 Project Alternatives

This section analyzes five project alternatives: Jamacha Valley 138 kV/69 kV Underground Alternative; Jamacha Valley Overhead A Alternative; Jamacha Valley Overhead B Alternative; City of Santee 138 kV/69 kV Underground Alternative; and City of Santee 230 kV Overhead Northern ROW Boundary Alternative. In the following analysis, potential impacts of these alternatives are defined and then compared to the impacts of the Proposed Project. Table D.3-7 presents a comparison of mitigation for impacts to sensitive vegetation communities for the Proposed Project and the alternatives.

Table D.3-7. Comparison of Mitigation Required under the Proposed Project and Alternatives (acres)

Alternative	Mitigation for Temporary Impacts	Mitigation for Permanent Impacts	Total Mitigation Required
Proposed Project	75.23	13.89	89.12
Jamacha Valley 138 kV/69 kV Underground Alternative	67.46	13.2	80.66
Jamacha Valley Overhead A Alternative	75.54	14.13	89.64
Jamacha Valley Overhead B Alternative	77.05	15.45	92.5
City of Santee 138 kV/69 kV Underground Alternative	72.80	14.14	86.94
City of Santee 230 kV Overhead Northern Boundary Alternative	75.51	14.13	89.64

Source: RECON, 2004, and HELIX, 2004.

D.3.4.1 Jamacha Valley 138 kV/69 kV Underground Alternative

This alternative assumes that the Proposed Project would be constructed as proposed with the exception of a 3.5-mile segment along Willow Glen Drive (from Cottonwood at Rancho San Diego Golf Club just south of the intersection of the existing project ROW and Willow Glen Drive, to the intersection of Willow Glen Drive and Dehesa Road). The alternative route would involve relocating the existing 138 kV and 69 kV circuits underground along Willow Glen Drive.

Environmental Setting

The Jamacha Valley 138 kV/69 kV Underground Alternative would be located entirely within unincorporated areas in the eastern portion of San Diego County. The environmental setting of the area would generally encompass ephemeral drainages, riparian habitats, developed land and large expanses of native coastal sage scrub. The alternative would pass through the boundaries of multi-jurisdictional regional habitat conservation plans administered by the County of San Diego and SDG&E to conserve threatened and endangered species and their habitats in these regions. The Jamacha Valley 138 kV/69 kV Underground Alternative would be almost entirely within an existing paved roadway. The Jamacha Valley 138 kV/69 kV Underground Alternative segment would be located underground within the existing Willow Glen Drive ROW. No sensitive resources occur within this 3.5-mile segment.

Environmental Impacts and Mitigation Measures

Impacts from the Jamacha Valley 138 kV/69 kV Underground Alternative would be less than those previously described for the Proposed Project. Approximately 95.51 acres of temporary impacts and approximately 9.12 acres of permanent impacts to vegetation communities and developed land would occur if the Proposed Project were constructed with the Jamacha Valley 138 kV/69 kV Underground Alternative (Table D.3-8). Temporary impacts would require 67.46 acres of sensitive habitat to be restored and monitored after construction. Permanent impacts would require 13.2 acres of habitat to be deducted from SDG&E's mitigation credits.

Under the Jamacha Valley 138 kV/69 kV Underground Alternative, both temporary and permanent impacts to sensitive vegetation communities would require implementation of Mitigation Measure B-1a, with mitigation acreages adjusted for this alternative.

In addition, temporary and permanent impacts to San Diego ambrosia, San Diego barrel cactus, vernal pools, raptors, coastal cactus wren, coastal California gnatcatcher, San Diego fairy shrimp, quino checkerspot butterfly, invasive plant species, bird electrocutions and collisions, as well as indirect impacts to water quality, avian species due to construction noise, and night lighting would remain the same as for the Proposed Project. Therefore, Mitigation Measures B-2a through B-7a would be required for these impacts; with implementation of these measures, all impacts to biological resources would be less than significant (Class II).

Comparison to Proposed Project

The Proposed Project would temporarily impact approximately 105.61 acres and permanently impact approximately 9.96 acres requiring a total of 89.12 acres of habitat mitigation. Assuming implementation of the Jamacha Valley 138 kV/69 kV Underground Alternative as a component of the Proposed Project, this alternative would temporarily affect 10.5 fewer acres, permanently affect 0.84 fewer acres, and require 8.46 fewer acres of habitat mitigation. The result is a moderate reduction in impacts to and mitigation for sensitive vegetation communities.

Table D.3-8. Impacts to Sensitive Vegetation Communities and Mitigation Required for the Jamacha Valley 138 kV/69 kV Underground Alternative

Vegetation Communities	Temporary Impacts and Mitigation Requirements			Permanent Impacts and Mitigation Requirements			Total Mitigation Required (acres)
	Temporary Impacts (acres)	Mitigation Ratio	Mitigation Required (acres)	Permanent Impacts (acres)	Mitigation Ratio	Mitigation Required (acres)	
Inside Preserve/QCB habitat*							
Chamise chaparral	1.30	1:1	1.30	0.18	2:1	0.36	1.66
Disturbed coastal sage scrub/ Coastal sage scrub/Maritime succulent scrub	51.73	1:1	51.73	5.25	2:1	10.50	62.23
Annual grasslands	0.77	1:1	0.77	0.21	2:1	0.42	1.19
Ruderal/disturbed	1.15	—	—	0.09	—	—	—
Developed	4.28	—	—	0.36	—	—	—
Subtotal	**59.23**	**—**	**53.80**	**6.09**	**—**	**11.28**	**65.08**
Outside of Preserve							
Chamise chaparral	—	—	—	—	—	—	—
Disturbed coastal sage scrub/ Coastal sage scrub/Maritime succulent scrub	7.26	1:1	7.26	1.41	1:1	1.41	8.67
Annual grasslands	6.40	1:1	6.40	0.51	1:1	0.51	6.91
Ruderal/disturbed	7.59	—	—	0.18	—	—	—
Developed	15.03	—	—	0.93	—	—	—
Subtotal	**36.28**	**—**	**13.66**	**3.03**	**—**	**1.92**	**15.58**
GRAND TOTAL	**95.51**	**—**	**67.46**	**9.12**	**—**	**13.2**	**80.66**

* Coastal California gnatcatcher and quino checkerspot butterfly habitat included.
Source: HELIX, 2004.

Comparison to Proposed Project with Future Circuit

The Jamacha Valley 138 kV/69 kV Underground Alternative lies within the footprint of the future 230 kV circuit. Temporary impacts to sensitive vegetation communities would be slightly decreased by implementation of this alternative as compared to the Proposed Project with the future 230 kV circuit. Mitigation for impacts to sensitive vegetation communities would be implemented with a slight reduction in mitigation acreages for each sensitive vegetation community. Impacts to sensitive plants and animals would remain the same. Therefore, mitigation for impacts to sensitive plant and animal species, as well as mitigation for invasive species, and indirect impacts resulting from the Jamacha Valley 138 kV/69 kV Underground Alternative would be the same as that defined in Mitigation Measures B-2a through B-7a.

D.3.4.2 Jamacha Valley Overhead A Alternative

This alternative assumes that the Proposed Project would be constructed as proposed with the exception of Jamacha Valley where the 138 kV and 69 kV circuits would be located on new steel mono-poles on the east side of the ROW, from a point near the Herrick Center (Steele Canyon Road and Jamul Drive)

to the intersection of the Miguel-Mission ROW and Hillsdale Road. The new alignment of poles would be located 12 feet from the eastern edge of the ROW. The 69 kV circuit would be located on the west side of the new alignment of steel mono-poles, and the 138 kV circuit would be positioned on the east side. Access roads would need to be constructed (or extended) for this alternative in order to access the construction sites along the eastern boundary of the ROW.

Environmental Setting

The Jamacha Valley Overhead A Alternative is located entirely within unincorporated areas in the eastern portion of San Diego County. The environmental setting of the project area generally encompasses ephemeral drainages, riparian habitats, developed land and large expanses of native coastal sage scrub. The ROW passes through the boundaries of multi-jurisdictional regional habitat conservation plans administered by the County of San Diego, and SDG&E to conserve threatened and endangered species and their habitats in these regions. In addition, the Jamacha Valley 138 kV/69 kV Underground Alternative would cross or be in the vicinity of highways, roads, and commercial and residential areas (Essex, 2002, and RECON, 2004).

Environmental Impacts and Mitigation Measures

Impacts from the Jamacha Valley Overhead A Alternative would be similar to those previously described for the Proposed Project. Approximately 105.89 acres of temporary impacts and approximately 10.2 acres of permanent impacts to vegetation communities and developed land would occur under the Jamacha Valley Overhead A Alternative (Table D.3-9). Temporary impacts would require 75.51 acres of sensitive habitat to be restored and monitored after construction. Permanent impacts would require 14.13 acres of habitat to be deducted from SDG&E's mitigation credits.

Under the Jamacha Valley Overhead A Alternative, both temporary and permanent impacts to sensitive vegetation communities would require mitigation, as discussed under Mitigation Measure B-1a, for the Proposed Project with mitigation acreages adjusted for this alternative.

In addition, temporary and permanent impacts to San Diego ambrosia, San Diego barrel cactus, vernal pools, raptors, coastal cactus wren, coastal California gnatcatcher, San Diego fairy shrimp, quino checkerspot butterfly, invasive plant species, bird electrocutions and collisions, as well as indirect impacts to water quality, avian species due to construction noise, and night lighting would remain the same. Therefore, Mitigation Measures B-2a through B-7a would be required for these impacts; with implementation of these measures, all impacts to biological resources would be less than significant (Class II).

Comparison to Proposed Project

The Proposed Project would temporarily impact approximately 105.61 acres and permanently impact approximately 9.96 acres requiring a total of 89.12 acres of habitat mitigation. The Jamacha Valley Overhead A Alternative would temporarily impact approximately 105.89 acres and permanently impact approximately 10.2 acres of vegetation requiring 89.64 acres of required mitigation. Therefore, the Jamacha Valley Overhead A Alternative would have only slightly greater impacts to and mitigation for sensitive vegetation communities than the Proposed Project, with a slight increase in temporary and permanent impacts and total mitigation. This alternative would also require construction or extension of access roads to access the eastern edge of the ROW.

Table D.3-9. Impacts to Sensitive Vegetation Communities and Mitigation Required for the Jamacha Valley Overhead A Alternative

	Temporary Impacts and Mitigation Requirements			Permanent Impacts and Mitigation Requirements			
Vegetation Communities	**Temporary Impacts (acres)**	**Mitigation Ratio**	**Mitigation Required (acres)**	**Permanent Impacts (acres)**	**Mitigation Ratio**	**Mitigation Required (acres)**	**TOTAL MITIGATION REQUIRED**
*Inside Preserve/QCB habitat**							
Chamise chaparral	1.30	1:1	1.30	0.18	2:1	0.36	1.66
Disturbed coastal sage scrub/ Coastal sage scrub/Maritime succulent scrub	51.73	1:1	51.73	5.25	2:1	10.50	62.23
Annual Grasslands	0.77	1:1	0.77	0.21	2:1	0.42	1.19
Ruderal/Disturbed	1.15	--	--	0.09	--	--	--
Developed	4.28	--	--	0.36	--	--	--
Sub-total	**59.23**	**--**	**53.80**	**6.09**	--	**11.28**	**65.08**
Outside of Preserve							
Chamise chaparral	--	--	--	--	--	--	--
Disturbed coastal sage scrub/ Coastal sage scrub/Maritime succulent scrub	15.17	1:1	15.17	2.22	1:1	2.22	17.39
Annual Grasslands	6.54	1:1	6.54	0.63	1:1	0.63	7.17
Ruderal/Disturbed	7.59	--	--	0.18	--	--	--
Developed	17.36	--	--	1.08	--	--	--
Sub-total	**46.66**	**--**	**21.71**	**4.11**	**--**	**2.85**	**24.56**
GRAND TOTAL	**105.89**	**--**	**75.51**	**10.2**	**--**	**14.13**	**89.64**

* Coastal California gnatcatcher and quino checkerspot butterfly habitat included.
Source: HELIX 2004

Comparison to Proposed Project with Future Circuit

The Jamacha Valley Overhead A Alternative lies within the existing SDG&E ROW. Temporary impacts to sensitive vegetation communities would be slightly greater with implementation of this alternative as compared to the Proposed Project with the future 230 kV circuit project due to the construction of access roads and additional workspace. Mitigation for impacts to sensitive vegetation communities would be implemented with a slight increase in mitigation acreages for each sensitive vegetation community. Impacts to sensitive plants and animals would remain the same. Therefore, mitigation for impacts to sensitive plant and animal species, as well as mitigation for invasive species, and indirect impacts resulting from the Jamacha Valley Overhead A Alternative would be the same as that defined in Mitigation Measures B-2a through B-7a.

D.3.4.3 Jamacha Valley Overhead B Alternative

Beginning at a point near the Herrick Center (Steele Canyon Road and Jamul Drive), the existing 138 kV/69 kV lattice towers would be removed and the existing 138 kV/69 kV circuits would be relocated to new steel mono-pole structures on the west side of the ROW. The new 230 kV circuit would be placed on new steel pole structures between the existing steel lattice structures and the new steel poles for the 138 kV and 69 kV circuits.

Nineteen steel mono-poles (Tower #675975 through #675957) would be installed to accommodate the relocated 138 kV/69 kV circuit. Seven of the 19 lattice structures are proposed to be replaced under the Proposed Project; this leaves a net of 12 additional steel lattice structures that would be replaced by steel mono-poles under this alternative.

Environmental Setting

The Jamacha Valley Overhead B Alternative is located entirely within unincorporated areas in the eastern portion of San Diego County. The environmental setting is similar to that of the Proposed Project because they would both occupy the existing ROWs. The area includes ephemeral drainages, riparian habitats, developed land and large expanses of native coastal sage scrub. The ROW passes through the boundaries of multi-jurisdictional regional habitat conservation plans administered by the County of San Diego and SDG&E to conserve threatened and endangered species and their habitats in these regions. In addition, the Jamacha Valley Overhead B Alternative would cross or be in the vicinity of highways, roads, and commercial and residential areas (Essex, 2002, and RECON, 2004).

Environmental Impacts and Mitigation Measures

Approximately 108.27 acres of temporary impacts and approximately 12.24 acres of permanent impacts to vegetation communities and developed land would occur under this alternative (see Table D.3-10). Temporary impacts would require 77.05 acres of sensitive habitat to be restored and monitored after construction and permanent impacts would require 15.45 acres of habitat to be deducted from SDG&E's mitigation credits under this alternative.

Both temporary and permanent impacts to sensitive vegetation communities would require implementation of Mitigation Measure B-1a, with mitigation acreages adjusted for this alternative.

In addition, temporary and permanent impacts to San Diego ambrosia, San Diego barrel cactus, vernal pools, raptors, coastal cactus wren, coastal California gnatcatcher, San Diego fairy shrimp, quino checkerspot butterfly, and invasive plant species, as well as indirect impacts to water quality, avian species due to construction noise, and night lighting would remain the same. Therefore, Mitigation Measures B-2a through B-7a must be implemented for these impacts. All impacts would be less than significant (Class II) with implementation of applicable mitigation.

Comparison to Proposed Project

The Proposed Project would temporarily impact approximately 105.61 acres and permanently impact approximately 9.96 acres requiring a total of 89.12 acres of habitat mitigation. This alternative with the rest of the Proposed Project would temporarily impact approximately 108.27 acres and permanently impact approximately 12.24 acres of vegetation requiring 92.5acres of required mitigation. The result is an increase in temporary and permanent impacts and required mitigation. Refer to Table D.3-7 for a comparison of mitigation for impacts to sensitive vegetation communities between the Proposed Project and the alternatives.

Comparison to Proposed Project with Future 230 kV Circuit

The Jamacha Valley Overhead B Alternative lies within the existing SDG&E ROW. Temporary impacts to sensitive vegetation communities would be increased with the implementation of this alternative as compared to the Proposed Project with the future 230 kV circuit project. Mitigation for impacts to sensitive vegetation communities would be implemented with an increase in mitigation acreages for each sensitive vegetation community. Impacts to sensitive plants and animals would remain the same.

Table D.3-10. Impacts to Sensitive Vegetation Communities and Mitigation Required for the Jamacha Valley Overhead B Alternative

	Temporary Impacts and Mitigation Requirements			Permanent Impacts and Mitigation Requirements			
Vegetation Communities	**Temporary Impacts (acres)**	**Mitigation Ratio**	**Mitigation Required (acres)**	**Permanent Impacts (acres)**	**Mitigation Ratio**	**Mitigation Required (acres)**	**TOTAL MITIGATION REQUIRED**
*Inside Preserve/QCB habitat**							
Chamise chaparral	1.30	1:1	1.30	0.18	2:1	0.36	1.66
Disturbed coastal sage scrub/ Coastal sage scrub/Maritime succulent scrub	51.73	1:1	51.73	5.25	2:1	10.50	62.23
Annual Grasslands	0.77	1:1	0.77	0.21	2:1	0.42	1.19
Ruderal/Disturbed	1.15	--	--	0.09	--	--	--
Developed	4.28	--	--	0.36	--	--	--
Sub-total	**59.23**	**--**	**53.80**	**6.09**	--	**11.28**	**65.08**
Outside of Preserve							
Chamise chaparral	--	--	--	--	--	--	--
Disturbed coastal sage scrub/ Coastal sage scrub/Maritime succulent scrub	16.85	1:1	16.85	3.66	1:1	3.66	20.51
Annual Grasslands	6.40	1:1	6.40	0.51	1:1	0.51	6.91
Ruderal/Disturbed	7.59	--	--	0.18	--	--	--
Developed	18.2	--	--	1.80	--	--	--
Sub-total	**49.04**	--	**23.25**	**6.15**	**--**	**4.17**	**27.42**
GRAND TOTAL	**108.27**	--	**77.05**	**12.24**	**--**	**15.45**	**92.5**

* Coastal California gnatcatcher and quino checkerspot butterfly habitat included.
Source: HELIX 2004

D.3.4.4 City of Santee 138 kV/69 kV Underground Alternative

In this alternative the Proposed Project would be constructed as proposed with the exception of a 1.3-mile segment in the City of Santee. This segment would be located underground, beneath a portion of a Miguel-Mission access road and along the length of Princess Joann Road.

Environmental Setting

The City of Santee 138 kV/69 kV Underground Alternative would be located entirely within City of Santee. The environmental setting of this alternative generally encompasses non-native grasslands and a large expanse of native coastal sage scrub. The ROW passes within the boundaries of multi-jurisdictional regional habitat conservation plans administered by the County of San Diego and SDG&E to conserve threatened and endangered species and their habitats in these regions. In addition, the City of Santee 138 kV/69 kV Underground Alternative would cross or be in the vicinity of highways, roads, and commercial and residential areas (Essex, 2002, and RECON, 2004).

This alternative includes an underground power line segment that would be installed underground for approximately 0.6 miles outside the Miguel-Mission ROW along a water storage tank access road and 0.75 miles along the length of Princess Joann Road. This segment runs through a residential community within the City of Santee. Sensitive vegetation communities occur adjacent to the access road.

Environmental Impacts and Mitigation Measures

Impacts from the City of Santee 138 kV/69 kV Underground Alternative would be similar to those previously described for the Proposed Project. Approximately 102.18 acres of temporary impacts and approximately 10.09 acres of permanent impacts to vegetation communities and developed land would occur under the City of Santee 138 kV/69 kV Underground Alternative (see Table D.3-11). Temporary impacts would require 72.80 acres of sensitive habitat to be restored and monitored after construction and permanent impacts would require 14.14 acres of habitat to be deducted from SDG&E's mitigation credits under this alternative.

Under the City of Santee 138 kV/69 kV Underground Alternative, both temporary and permanent impacts to sensitive vegetation communities would require implementation of Mitigation Measure B-1a, with mitigation acreages adjusted for this alternative. In addition, potentially significant temporary and permanent impacts to San Diego ambrosia, San Diego barrel cactus, vernal pools, raptors, coastal cactus wren, coastal California gnatcatcher, San Diego fairy shrimp, quino checkerspot butterfly, invasive plant species, bird electrocutions and collisions, as well as indirect impacts to water quality, avian species due to construction noise, and night lighting would remain the same. Therefore, Mitigation Measures B-2a through B-7a would be required. Implementation of all mitigation measures would result in less than significant (Class II) impacts.

Table D.3-11. Impacts to Sensitive Vegetation Communities and Mitigation Required for the City of Santee 138 kV/69 kV Underground Alternative

Vegetation Communities	Temporary Impacts and Mitigation Requirements			Permanent Impacts and Mitigation Requirements			Total Mitigation Required (acres)
	Temporary Impacts (acres)	Mitigation Ratio	Mitigation Required (acres)	Permanent Impacts (acres)	Mitigation Ratio	Mitigation Required (acres)	
Inside Preserve/QCB habitat*							
Chamise chaparral	1.30	1:1	1.30	0.18	2:1	0.36	1.66
Disturbed coastal sage scrub/ Coastal sage scrub/Maritime succulent scrub	51.73	1:1	51.73	5.25	2:1	10.50	62.23
Annual grasslands	0.77	1:1	0.77	0.21	2:1	0.42	1.19
Ruderal/disturbed	1.15	—	—	0.09	—	—	—
Developed	4.28	—	—	0.36	—	—	—
Subtotal	**59.23**	**—**	**53.80**	**6.09**	**—**	**11.28**	**65.08**
Outside of Preserve							
Chamise chaparral	—	—	—	—	—	—	—
Disturbed coastal sage scrub/ Coastal sage scrub/Maritime succulent scrub	12.6	1:1	12.6	2.35	1:1	2.35	14.95
Annual grasslands	6.40	1:1	6.40	0.51	1:1	0.51	6.91
Ruderal/disturbed	6.95	—	–	0.06	—	–	–
Developed	17.00	—	–	1.08	—	–	–
Subtotal	**42.95**	**—**	**19.00**	**4.0**	**—**	**2.86**	**21.86**
GRAND TOTAL	**102.18**	**—**	**72.80**	**10.09**	**—**	**14.14**	**86.94**

* Coastal California gnatcatcher and quino checkerspot butterfly habitat included.
Source: HELIX, 2004.

Comparison to Proposed Project

The Proposed Project would temporarily impact approximately 105.61 acres and permanently impact approximately 9.96 acres requiring a total of 89.12 acres of habitat mitigation. The City of Santee 138 kV/69 kV Underground Alternative would temporarily impact approximately 102.18 acres and permanently impact approximately 10.09 acres of vegetation requiring 86.94 acres of required mitigation. The result is a slight reduction in temporary impacts, and a slight increase in permanent impacts and required mitigation. Refer to Table D.3-7 for a comparison of mitigation for impacts to sensitive vegetation communities for the Proposed Project and the alternatives.

Comparison to Proposed Project with Future 230 kV Circuit

With implementation of the City of Santee 138 kV/69 kV Underground Alternative, the future 230 kV circuit with still be installed within the existing ROW. Temporary impacts to sensitive vegetation communities would be slightly decreased by implementation of this alternative as compared to the Proposed Project with the future 230 kV circuit. Mitigation for impacts to sensitive vegetation communities would be implemented with a slight reduction in mitigation acreages for each sensitive vegetation community. Impacts to sensitive plants and animals would remain the same. Therefore, mitigation for impacts to sensitive plant and animal species, as well as mitigation for invasive species, and indirect impacts resulting from the City of Santee 138 kV/69 kV Underground Alternative would be similar to Mitigation Measures B-2a through B-7a.

D.3.4.5 City of Santee 230 kV Overhead Northern ROW Boundary Alternative

Under this alternative the Proposed Project would be constructed as proposed with the exception of a portion of the route in the City of Santee where the proposed 230 kV circuit would transition to the northern side of the ROW, starting near the water tanks due east of the eastern end of Princess Joann Road and transitioning back to the southern side at a point approximately 800 feet northwest of the western end of Princess Joann Road. The three proposed 138 kV wood and steel poles associated with the Proposed Project would be retained but would be moved to the northern side of the ROW. Two additional 230 kV steel mono-poles would be added to allow crossover of the circuits at the two endpoints.

Environmental Setting

The City of Santee 230 kV Overhead Northern ROW Boundary Alternative would be located entirely within City of Santee. The environmental setting of this alternative generally encompasses non-native grasslands and a large expanse of native coastal sage scrub. The ROW passes within the boundaries of multi-jurisdictional regional habitat conservation plans administered by the County of San Diego and SDG&E to conserve threatened and endangered species and their habitats in these regions. In addition, the City of Santee 230 kV Overhead Northern ROW Boundary Alternative would cross or be in the vicinity of residential areas (Essex, 2002, and RECON, 2004).

Comparison to Proposed Project

The Proposed Project would temporarily impact approximately 105.61 acres and permanently impact approximately 9.96 acres requiring a total of 89.12 acres of habitat mitigation. The City of Santee 230 kV Overhead Northern ROW Boundary Alternative would have very similar effects, temporarily impacting approximately 106.03 acres and permanently impact approximately 10.32 acres of vegetation requiring 89.90 acres of required mitigation. Although there would be a slight increase in temporary and permanent impacts and required mitigation due to the construction of the two additional crossover 230 kV steel

Environmental Impacts and Mitigation Measures

Table D.3-12. Impacts to Sensitive Vegetation Communities and Mitigation Required for the City of Santee 230 kV Overhead Northern ROW Boundary Alternative

	Temporary Impacts and Mitigation Requirements			Permanent Impacts and Mitigation Requirements			
Vegetation Communities	**Temporary Impacts (acres)**	**Mitigation Ratio**	**Mitigation Required (acres)**	**Permanent Impacts (acres)**	**Mitigation Ratio**	**Mitigation Required (acres)**	**TOTAL MITIGATION REQUIRED**
*Inside Preserve/QCB habitat**							
Chamise chaparral	1.30	1:1	1.30	0.18	2:1	0.36	1.66
Disturbed coastal sage scrub/ Coastal sage scrub/Maritime succulent scrub	51.73	1:1	51.73	5.25	2:1	10.50	62.23
Annual Grasslands	0.77	1:1	0.77	0.21	2:1	0.42	1.19
Ruderal/Disturbed	1.15	--	--	0.09	--	--	--
Developed	4.28	--	--	0.36	--	--	--
Sub-total	**59.23**	**--**	**53.80**	**6.09**	--	**11.28**	**65.08**
Outside of Preserve							
Chamise chaparral	--	--	--	--	--	--	--
Disturbed coastal sage scrub/ Coastal sage scrub/Maritime succulent scrub	15.31	1:1	15.31	2.34	1:1	2.34	17.65
Annual Grasslands	6.54	1:1	6.54	0.63	1:1	0.63	7.17
Ruderal/Disturbed	7.59	--	--	0.18	--	--	--
Developed	17.36	--	--	1.08	--	--	--
Sub-total	**46.8**	**--**	**21.85**	**4.23**	**--**	**2.97**	**24.82**
GRAND TOTAL	**106.03**	**--**	**75.65**	**10.32**	**--**	**14.25**	**89.9**

* Coastal California gnatcatcher and quino checkerspot butterfly habitat included.
Source: HELIX, 2004

mono-poles, the biological resources impacts would only be slightly greater with this alternative than with the Proposed Project. Refer to Table D.3-7 for a comparison of mitigation for impacts to sensitive vegetation communities for Proposed Project and the alternatives.

Comparison to Proposed Project with Future Circuit

The City of Santee 230 kV Overhead Northern ROW Boundary Alternative lies within or adjacent to the existing ROW. Temporary impacts to sensitive vegetation communities would be slightly increased by implementation of this alternative as compared to the Proposed Project with the future 230 kV circuit. Mitigation for impacts to sensitive vegetation communities would be implemented with a slight increase of 0.52 acres (22,651.2 square feet) in mitigation for each sensitive vegetation community due to the construction of the two additional steel mono-poles. Impacts to sensitive plants and animals would remain the same. Therefore, mitigation for impacts to sensitive plant and animal species, as well as mitigation for invasive species, and indirect impacts resulting from the City of Santee 230 kV Overhead Northern ROW Boundary Alternative would be similar to Mitigation Measures B-2a through B-7a.

D.3.5 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, SDG&E would not install a new, bundled 230 kV circuit between the Miguel and Mission Substations or relocate existing 138 kV and 69 kV circuits onto new steel and wood poles within the existing Miguel-Mission ROW. The SDG&E ROW would remain in its current condition with existing access roads, transmission lines, and towers and poles. No new impacts to sensitive vegetation communities such as coastal sage scrub, chamise chaparral, or maritime succulent scrub would occur under the No Project Alternative. In addition, no new impacts to sensitive plants or animals, such as San Diego barrel cactus or quino checkerspot butterfly would occur under the No Project Alternative.

Indirect impacts associated with project construction to water quality, fugitive dust, or changes in animal behavior would not occur under the No Project Alternative. However, as noted in Section D.2.5, the No Project Alternative would likely result in additional air emissions from power plant operations. Although new power plants may be necessary in the San Diego area, their location and schedule for development cannot be predicted. The effect of these emissions on biological resources would be less than significant (Class III) due to the dispersed nature of the emissions. In addition, if new power plants were constructed, additional impacts to biological resources would likely occur.

D.3.6 Mitigation Monitoring, Compliance, and Reporting Table

Table D.3-12 presents the mitigation monitoring, compliance, and reporting requirements for mitigation measures that would protect biological resources. The mitigation measures include reference to proposed Project Protocols, measures identified in the biology report, and measures identified by the USFWS and CDFG (USFWS, 2004) in a pre-project consultation.

Table D.3-12. Mitigation Monitoring Program – Biological Resources

IMPACT B-1	**Temporary and Permanent Loss of Sensitive Vegetation Communities (Class II / III)**
MITIGATION MEASURE	**B-1a: Provide restoration/compensation for impacted sensitive vegetation communities.** SDG&E shall implement the following in addition to PP-1 and PP-41: 1. Where impacts to chamise chaparral, coastal sage scrub (including disturbed), maritime succulent scrub, and annual grasslands cannot be avoided, SDG&E shall either restore temporarily disturbed areas to pre-construction conditions following construction or deduct from the SDG&E Mitigation Credits, as stated in the SDG&E NCCP. Where onsite restoration is planned for mitigation of temporary impacts to sensitive vegetation communities, the Applicant shall identify a Habitat Restoration Specialist to be approved by the CPUC to determine the most appropriate method of restoration. Restoration techniques can include: hydroseeding, hand-seeding, imprinting, and soil and plant salvage, as discussed in Section 7.2.1 of the NCCP. Monitoring would include visual inspection of restored areas after one year. A second application may be made. If, after the second year, restoration is deemed unsuccessful, the USFWS and CDFG, in cooperation with SDG&E, shall determine whether the remaining loss shall be mitigated through a deduction from the SDG&E Mitigation Credits, or a third application would better achieve the intended purpose. The mitigation objective for impacted sensitive vegetation communities shall be restoration to pre-construction conditions as measured by species cover, species diversity, and exotic species cover. The cover of native species should increase while the cover of non-native or invasive species should decrease. Success criteria shall be established by comparison with reference sites. If, however, roots are not grubbed during temporary impacts, restoration/ hydroseeding may not be necessary. This applies to impacts greater than 500 square feet, and only where grubbing occurred. For all temporary impacts greater than 500 square feet, acreage not meeting success criteria shall be deducted from SDG&E's mitigation credits at a 1:1 ratio. 2. Based on information provided in the biological technical report (RECON, 2004), the total acreage requiring restoration for temporary impacts is 75.23 acres (Table D.3-5). The total acreage of permanent impact mitigation is 13.89 acres, which must be subtracted from SDG&E's mitigation bank credit. These totals included impacts to vegetation communities for the coastal California gnatcatcher and quino checkerspot butterfly.
Location	Impacted sensitive vegetation communities throughout project area.
Monitoring / Reporting Action	Report by biological monitor to USFWS and CDFG that includes status of all monitoring activities, confirmation of impact and required mitigation acreage, recommended revegetation methods for temporary impacts, compliance with success criteria, remedial measures, and report on mitigation credits to be subtracted from SDG&E's mitigation bank.
Effectiveness Criteria	Temporarily impacted sensitive vegetation communities shall be restored to pre-construction conditions as measured by compliance with success criteria. Permanent impacts will be compensated for through use of mitigation bank credits.
Responsible Agency	CPUC, SDG&E, USFWS, and CDFG
Timing	Prior to and after construction, as appropriate.

Table D.3-12. Mitigation Monitoring Program – Biological Resources

IMPACT B-2	**Impacts to Sensitive Plant Species**
IMPACT B-2.1	**Impacts to San Diego Ambrosia (Class II)**
MITIGATION MEASURE	**B-2a: Protect San Diego ambrosia from impacts or provide compensation for impacts.** 1. A qualified biologist shall conduct a focused survey for San Diego ambrosia in the spring of 2004, prior to the onset of project activities. All San Diego ambrosia locations shall be recorded using a global positioning system (GPS), and Figure 4-9 of the biological technical report (RECON, 2004) shall be updated with any new locations. In addition, the boundaries of all San Diego ambrosia patches shall be clearly staked and flagged during the surveys for impact avoidance during implementation of the Proposed Project. 2. All patches of San Diego ambrosia that are delineated shall be avoided to the maximum extent possible by any temporary soil disturbing project activities such as driving, staging or deposition of auger spoils. If driving or staging in areas containing San Diego ambrosia is unavoidable, work shall be conducted during the fall or winter months, the species' dormant period, and plywood or a similar material shall be placed over the San Diego ambrosia plants and their surrounding area to reduce soil disturbance. Moreover, if avoidance is not feasible, the Applicant shall coordinate with the USFWS regarding Mitigation Measure B-1a as well as potential restoration/compensation measures. 3. Permanent impacts may take place at the locations for Structures #361 and #370. These structure locations are currently 15 to 20 feet from any San Diego ambrosia plants. If the patch of San Diego ambrosia adjacent to the Structure #361 location expands and would be permanently impacted by the structure, the structure location may be relocated a few feet to the north in order to prevent impacts. If the section of San Diego ambrosia adjacent to Structure #370 expands and would be permanently impacted by the structure, which can not be relocated due to engineering constraints, the project biologist and USFWS and CDFG shall coordinate to determine suitable mitigation for the impacts. 4. A qualified biologist approved by the CPUC prior to the start of construction shall monitor project activities for all work conducted at or around Structures #361 and #370 and the associated stringing/snub site to ensure impact avoidance.
Location	Identified San Diego ambrosia areas near Structures #361 and #370.
Monitoring / Reporting Action	A qualified biologist shall map and report updated locations of San Diego ambrosia to USFWS and CDFG, determine suitable mitigation in consultation with USFWS and CDFG, and monitor construction.
Effectiveness Criteria	Successful avoidance of San Diego ambrosia if possible. Implementation of USFWS- and CDFG-approved mitigation measures if necessary.
Responsible Agency	CPUC, SDG&E, USFWS, and CDFG
Timing	Spring 2004, prior to and during construction.
IMPACT B-2.2	**Impacts to San Diego Barrel Cactus (Class II)**
MITIGATION MEASURE	**B-2b: Protect San Diego barrel cactus from impacts or relocate potentially impacted species.** A qualified biologist approved by the CPUC prior to the start of construction shall clearly stake and flag San Diego barrel cactus, which shall be avoided to the maximum extent possible by any temporary soil disturbing project activities such as driving, staging or deposition of auger spoils. If avoidance is not feasible, individual San Diego barrel cacti shall be relocated outside of the impact area or temporarily removed and replanted after construction activities are complete.
Location	San Diego barrel cactus locations within project area.

Table D.3-12. Mitigation Monitoring Program – Biological Resources

Monitoring / Reporting Action	Biological monitor shall document avoidance and relocation of San Diego barrel cactus.
Effectiveness Criteria	Successful avoidance of impacts or relocation of San Diego barrel cactus.
Responsible Agency	CPUC
Timing	Spring 2004, prior to and during construction.
IMPACT B-4	**Impacts to Sensitive Animal Species**
IMPACT B-4.1	**Impacts to Raptors (Class II)**
MITIGATION MEASURE	**B-4a: Protect raptor nests.** 1. Prior to construction, SDG&E shall remove all existing raptor nests from structures that would be affected by project construction. 2. Removal of nests shall occur outside the raptor breeding season (January to July). 3. If it is necessary to remove an existing raptor nest during the breeding season, a qualified biologist, approved by the CPUC prior to the start of construction, shall survey the nest prior to removal to determine if the nest is active. If the nest is inactive, it shall be removed promptly. If a nest is determined to be active, the nest shall not be removed and the biologist shall monitor the nest to ensure nesting activities/breeding activities are not disrupted. If the biological monitor determines that project activities are disturbing or disrupting nesting activities, the monitor shall make feasible recommendations to reduce the noise and/or disturbance in the vicinity of the nest.
Location	Identified raptor nests within project area.
Monitoring / Reporting Action	Report removal of raptor nests. If avoidance of nests is not possible, consult with USFWS and CDFG to determine acceptable mitigation measures.
Effectiveness Criteria	Successful removal of inactive nests and/or protection of active nests, as appropriate.
Responsible Agency	CPUC, SDG&E, and possibly USFWS, and CDFG
Timing	Prior to and during construction.
IMPACT B-4.2	**Impacts to Coastal Cactus Wren (Class II)**
MITIGATION MEASURE	**B-4b: Protect coastal cactus wren and its habitat.** 1. SDG&E shall implement PP-43. 2. All grading or brushing of maritime succulent scrub, habitat for the coastal cactus wren, shall be conducted from September through February, which is outside the coastal cactus wren breeding season. Grading, brushing, and any other project activity shall avoid impacting large cactus patches that provide suitable nesting habitat for the coastal cactus wren. 3. When conducting project activities during the coastal cactus wren breeding season of March through August, within maritime succulent scrub habitat, the following avoidance measures shall apply: (a) A qualified biologist shall survey for coastal cactus wren within one week prior to initiating project activities in an area. • If coastal cactus wrens are present but not nesting, a qualified biologist shall survey for nesting coastal cactus wrens once per week in the vicinity of project activities, for the duration of the activity in that area. • If an active coastal cactus wren nest is located in the vicinity of project activities, a biologist qualified for coastal cactus wren nest monitoring shall monitor the nest daily until either project activities are no longer in the vicinity of the nest, or the fledglings become independent of their nest.

Table D.3-12. Mitigation Monitoring Program – Biological Resources

	(b) If the coastal cactus wren nest monitor determines that project activities are disturbing or disrupting the nesting activities of an active nest, the monitor shall make feasible recommendations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nesting coastal cactus wren and the project activities, and working in other areas until the young have fledged. 4. Consultation with USFWS and CDFG is required prior to undertaking any activity that would impact nesting birds in order to agree on specific suitable actions.
Location	Identified maritime succulent scrub within project area.
Monitoring / Reporting Action	Biological monitor shall oversee breeding season surveys and monitoring, and if necessary, ensure coordination of mitigation measures with the USFWS and CDFG.
Effectiveness Criteria	Successful avoidance of impacts to the coastal cactus wren.
Responsible Agency	CPUC
Timing	Prior to and during construction.
IMPACT B-4.3	**Impacts to Coastal California Gnatcatcher (Class II)**
MITIGATION MEASURE	**B-4c: Protect coastal California gnatcatcher and its habitat.** 1. SDG&E shall implement PP-43. 2. All grading or brushing taking place within coastal sage scrub, disturbed coastal sage scrub, or maritime succulent scrub, habitats of the coastal California gnatcatcher, shall be conducted from September through February, which is outside the coastal California gnatcatcher breeding season. 3. When conducting all other project activities during the coastal California gnatcatcher breeding season of March through August, within habitat in which coastal California gnatcatchers are known to or have a high potential to occur, the following avoidance measures shall apply: (a) A qualified biologist shall survey for coastal California gnatcatchers within one week prior to initiating project activities in an area. • If coastal California gnatcatchers are present, but not nesting, a qualified biologist shall survey for nesting coastal California gnatcatchers approximately once per week in the vicinity of project activities, for the duration of the activity in that area. • If an active coastal California gnatcatcher nest is located in the vicinity of project activities, a biologist qualified for coastal California gnatcatcher nest monitoring shall monitor the nest daily until either project activities are no longer in the vicinity of the nest or the fledglings become independent of their nest. (b) If the coastal California gnatcatcher nest monitor determines that the project activities are disturbing or disrupting the nesting activities, the monitor shall make feasible recommendations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as, but not limited to, turning off vehicle engines and other equipment when ever possible to reduce noise, installing a protective noise barrier between the nesting coastal California gnatcatchers and the project activities, and working in other areas until the young have fledged. 4. Consultation with USFWS and CDFG is required prior to undertaking any activity that would impact nesting birds in order to agree on specific suitable actions.
Location	Identified coastal sage scrub, disturbed coastal sage scrub or maritime succulent scrub within project area.
Monitoring / Reporting Action	Biological monitor shall oversee breeding season surveys and monitoring, and if necessary, ensure coordination of mitigation measures with the USFWS and CDFG.
Effectiveness Criteria	Successful avoidance of impacts to coastal California gnatcatcher.
Responsible Agency	CPUC
Timing	Prior to and during construction.

Table D.3-12. Mitigation Monitoring Program – Biological Resources

IMPACT B-4.4	**Impacts to San Diego Fairy Shrimp (Class II)**
MITIGATION MEASURES	**B-4d: Protect San Diego fairy shrimp and vernal pools, or provide compensation for impacts.** 1. Prior to construction, SDG&E's biological monitor (to be approved by the CPUC prior to the start of construction) shall clearly flag and stake all vernal pools and depressions within access roads to help minimize project impacts including, but not limited to, the following areas: the access road between Calle de Vida and Tower #873081; southern section of the loop road between Towers #579861 and #731171; and the depression immediately west of Tower #731172. In addition to vehicles being restricted from these areas, crewmembers on foot shall also avoid these areas. 2. A preconstruction environmental training session shall be conducted by a qualified biologist for the construction crew before reconductoring activities occur to inform them of project-specific constraints and to educate them on covered species and sensitive resources at the project site. 3, A qualified biologist shall be present during all activities being conducted within the access routes to Towers #873081, #873072, #579861, and #731172 to monitor and assist the crew to minimize project impacts. 4. If the alternate access route to Tower #873072 and its associated stringing site is feasible, this route shall be used for all project activities associated with Tower #873072, including its stringing site. 5. Access roads to Towers #873081, #873072, #579861, and #731172 shall be used only when the roads and depressions are completely dry, preferably during the dry season (typically April through November). If Towers #873081, #873072, #579861, and #731172 must be accessed while any portion of the depressions within the roads are wet, metal plating or bridging shall be placed over the depressions to prevent alteration of the depression topography, hydrology, and impacts to San Diego fairy shrimp. 6. Assuming that the vehicles required for reconductoring have adequate space to turn around within the access road or adjacent spur roads near Tower #873081, this tower shall be accessed only from Tierrasanta Boulevard, instead of Calle de Vida to prevent driving through the depression north of this tower. If space is not adequate for turning around the reconductoring vehicles, the recommendations above (Items 3 through 5) shall be followed. 7. The depression immediately west of Tower #731172 shall be avoided to prevent impacts to potential San Diego fairy shrimp habitat. Reconductoring vehicles shall park far enough away from this tower to avoid effects on the depression. **B-4e: Protect vernal pools.** If use of alternative routes is feasible: 1. Old routes and roads shall be blocked from use to allow for the recovery of natural vegetation. In some cases, restoration of vernal pools and/or habitat in abandoned roads may be appropriate. If use of alternative routes is not feasible and impacts to San Diego fairy shrimp and vernal pools are unavoidable: 2. In lieu of the requirement defined in Item 5 of Mitigation Measure B-4d, SDG&E shall clearly define and improve existing access roads (elevate and crown with appropriate material) and permanently maintain these access roads to prevent ponding, thereby precluding native plant and animal species from being established in the road beds. As such, appropriate mitigation for temporary and permanent impacts to San Diego fairy shrimp and vernal pools within the access roads shall be developed in coordination with the USFWS and CDFG. 3. The mitigation program required by USFWS and CDFG is expected to include a quantification of project impacts, a mitigation ratio of 2:1 for vernal pool surface area impacts, implementation of a vernal pool restoration plan on an area with appropriate soils, and maintenance and monitoring for five years.

Table D.3-12. Mitigation Monitoring Program – Biological Resources

Location	Identified San Diego fairy shrimp habitat (vernal pools) located within project area (Towers #873081, #873072, #873073, #873071, #731171, #579861, and #731172).
Monitoring / Reporting Action	Report all monitoring activities related to San Diego fairy shrimp and vernal pools and direct coordination with USFWS and CDFG on avoidance and mitigation measures.
Effectiveness Criteria	Successful avoidance of San Diego fairy shrimp and vernal pool impacts, and/or implementation of permanent access road improvements, restoration plan, and 5-year monitoring program.
Responsible Agency	SDG&E and CPUC
Timing	Prior to, during and after construction
IMPACT B-4.5	**Impacts to Quino Checkerspot Butterfly (Class II / III)**
MITIGATION MEASURES	**B-4f: Protect quino checkerspot butterfly and its suitable habitat.** 1. SDG&E shall implement PP-42. 2. Prior to construction, SDG&E shall clearly stake the boundaries of all actual construction sites at existing structures, new structures sites, stringing, snub, and staging areas in quino checkerspot butterfly habitat. 3. A preconstruction environmental training session shall be conducted for the construction crew before vegetation and ground clearing activities occur to inform them of project-specific constraints and to educate them on covered species and sensitive resources at the project site. 4. If the project is to be implemented in the summer or fall of 2004, adult flight season surveys shall be conducted in the spring of 2004 to observe any changes in habitat or additional quino checkerspot butterfly locations. 5. The staked construction sites at existing structures, new structure sites, stringing, snub, and staging areas from Tower #675995 to Tower #675984 shall be resurveyed and reassessed for potential impacts to quino checkerspot butterfly after the sites have been staked but prior to grading and grubbing activities. Estimated impacts to quino checkerspot butterfly habitat shall also be recalculated based on the boundaries of the staked construction sites. 6. If feasible, grading and grubbing activities shall occur between June 1 and October 15, which is outside of the quino checkerspot butterfly larval and adult activity season. 7. If grading and grubbing activities occur during the quino checkerspot butterfly larval and adult activity season (October 16 through May 31), a qualified quino checkerspot butterfly biologist shall survey the area prior to grading activities. If the adult flight season has not begun, according to USFWS Survey Protocol (2002), a qualified larval quino checkerspot butterfly biologist shall survey the area for larval quino checkerspot butterfly prior to grading and grubbing activities. If egg clusters, larvae, and/or adults are present within the impact area, and impacts to these individuals are unavoidable, the USFWS shall be contacted to determine whether the quino checkerspot butterfly shall be salvaged or relocated. 8. A qualified biologist shall be present during grading and grubbing activities to monitor and assist the grading and grubbing crew to ensure project impacts only occur within the staked construction work sites. 9. The San Diego National Wildlife Refuge shall be notified prior to project activities occurring at New Structure Site #30 and Tower #675995 through New Structure Site #161 and Tower #675987. **B-4g: Protect quino checkerspot butterfly.** 1. A qualified botanist shall identify "suitable quino habitat" any time of the year, but prior to clearing and grubbing. "Suitable quino habitat" is defined as "shrub communities such as coastal sage scrub, chaparral, and desert scrub with 50 percent shrub cover or less and the potential to support dot-seed plantain or other larval host plants" (RECON, 2000).

Table D.3-12. Mitigation Monitoring Program – Biological Resources

	2. If suitable habitat is identified within the project footprint, and the Proposed Project would not avoid impacts to all suitable habitat, then adult flight season surveys shall be conducted. (a) If no quino are detected, project activities may proceed and SDG&E shall mitigate at a 1:1 ratio for all impacts to suitable habitat. (b) If quino are detected and the impact to "non-excluded area" as defined in the USFWS Adult Flight Season Survey Protocol (2002) is less than one acre, then SDG&E shall mitigate for all impacts to all non-excluded areas at a 2:1 ratio. (c) If impacts to non-excluded areas are greater than or equal to one acre, the USFWS and CDFG approval is necessary. If project constraints do not allow for a 2004 adult flight season survey, then the non-excluded area shall be assumed to be occupied and protocols shall follow those specified above. 3. Based on information provided in the biology technology report (RECON, 2004), the currently anticipated mitigation requirement for temporary impacts is 6.18 acres and the mitigation requirement for permanent impacts is 0.90 acres, resulting in a total mitigation requirement of 7.08 acres (included in Mitigation Measure B-1). These numbers may change based on new surveys in 2004.
Location	Identified quino checkerspot butterfly habitat within project area (from Willow Glen Drive (located north of Campo Road) south to the Miguel Substation).
Monitoring / Reporting Action	Spring 2004 protocol QCB Survey, avoidance of habitat areas to extent possible, and determination of mitigation requirements in consultation with CDFG and USFWS.
Effectiveness Criteria	Successful avoidance of the quino checkerspot butterfly and the habitat of this species to maximum extent possible and implementation of mitigation requirements.
Responsible Agency	CPUC, SDG&E, USFWS, and CDFG
Timing	Prior to, during and after construction
IMPACT B-5	**Impacts by Invasive Plant Species (Class II)**
MITIGATION MEASURE	**B-5a: Protect project area from introduction or establishment of invasive species.** SDG&E shall prevent invasion of invasive, non-native plant species into sensitive plant species habitats and vegetation types by: • Implementation of specific measures during construction, such as cleaning vehicles prior to off-road use, using weed-free imported soil, restricted vegetation removal and requiring topsoil storage • Development and implementation of weed management procedures to monitor and control the spread of weed populations along the ROW • Vehicles used in transmission line construction shall be cleaned prior to operation off of maintained roads • Fill material, soil amendments, gravel etc. required for construction/restoration activities shall be obtained from a source that can certify the soil as being "weed free" • Existing vegetation shall be cleared only from areas scheduled for immediate construction work (within 10 days) and only for the width needed for active construction activities • During construction, the upper 12 inches of topsoil (or less depending on existing depth of topsoil) shall be salvaged and replaced wherever the transmission line is trenched through open land (not including graded roads and road shoulders) • Disturbed soils shall be revegetated with an appropriate seed mix that does not contain invasive, non-native plant species.
Location	Entire project area.
Monitoring / Reporting Action	Biological monitor to evaluate revegetated areas and implement appropriate mitigation measures.

Table D.3-12. Mitigation Monitoring Program – Biological Resources

Effectiveness Criteria	Successful protection from the introduction or establishment of invasive species in post-construction areas.
Responsible Agency	CPUC
Timing	Prior to, during and after construction.
IMPACT B-7	**Indirect Impacts Due to Night Lighting (Class II)**
MITIGATION MEASURE	**B-7a: Reduce night lighting on sensitive habitats.** Exterior lighting within the project area adjacent to preserved habitat shall be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from preserved habitat to the maximum extent practicable.
Location	Entire project ROW.
Monitoring / Reporting Action	Biological monitor shall ensure correct placement of lighting.
Effectiveness Criteria	Successful prevention of night lighting impacting sensitive habitats.
Responsible Agency	CPUC
Timing	During construction.

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